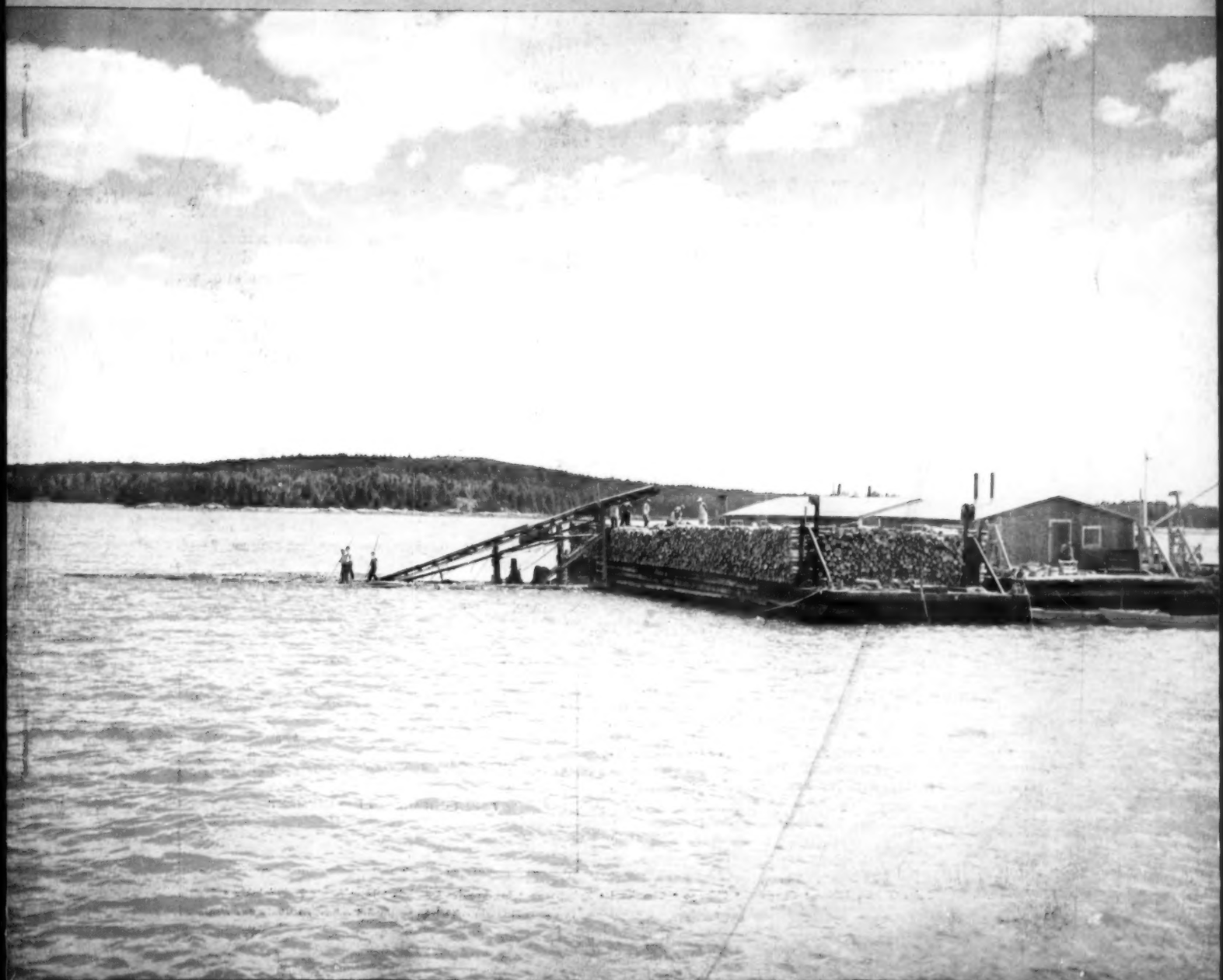
PULP & PAPER

IN THIS ISSUE

THE PRODUCTION AND MANAGEMENT JOURNAL OF THE PULP AND PAPER INDUSTRY



SEAGOING LOGGERS improve beauty of islands off Maine. Here's part of 4,000 cord cut on 1300-acre Rogue Island.

VOLUME XX NUMBER XX MARCH 1954

the difference is "How fast it moves" with PAREZ® Resin 607

the Melostrength* resin

A fast mover in the mill...

Papers treated with PAREZ Resin 607 achieve exceptionally high wet strength *right off the machine*, eliminating delays for testing, saving warehouse space.

PAREZ 607 gives uniform, high wet-strength results, prevents possible loss of time—and stock—because of "below-specification" runs. Adequate stocks of resin can be kept on hand for immediate use since PAREZ 607 has excellent storage stability.

A fast mover in the market...

Melostrength papers meet highest specifications for dependable wet strength.

...they are backed by the national *Melostrength* promotion program, which is gaining wide acceptance for these papers among converters, jobbers and consumers.

It will pay you to investigate—ask your Cyanamid representative for full details.

THE LARGEST VARIETY OF PAPER CHEMICALS, *to serve every industry need, is offered by Cyanamid, and is backed by the services of technical experts with years of practical mill experience.*

*Trade-mark

Recent Mill Developments with Cyanamid Paper Chemicals...

BETTER SHEET FORMATION is credited to ACCOCEL® 741 when added in very small amounts to the breaker beater, according to an Indiana mill. The mill reports better disintegration of fiber bundles and improved dispersion and distribution of rosin size.

* * *

IMPROVED RETENTION OF FINES is another "plus" scored with Sodium Phospho Aluminate. This is especially important in mills where the white water system is not a closed system and considerable fines would ordinarily be lost in the discharge of waste water. Prevention of stream contamination is also a potential benefit.

* * *

GREASE-PROOFING WITHOUT BRITTLENESS is accomplished with the aid of ALWAX* 253 series of wax sizes. Developed especially to work with silicate of soda, ALWAX 253 cuts down the silicate's brittleness, and eliminates sticking at the calenders.

* * *

TO ELIMINATE HARSHNESS AND RATTLE on lightweight aluminum foil backing papers, CYNOL* 761 is being employed by a Wisconsin mill in 1% concentration on fiber. Results are consistently good, and the procedure is now standard at this mill.

AMERICAN Cyanamid COMPANY

PAPER CHEMICALS DEPARTMENT

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Sales Offices: Boston • Charlotte • Chicago • Cleveland • Kalamazoo • Los Angeles • Mobile • New York • Philadelphia • Seattle
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PULP & PAPER

Production and Management Magazine of the Industry

March 1954
Vol. 28—No. 3

IN THIS ISSUE

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COMMENT

There'll Always be a Pulp and Paper Man a-Lazin' in the Sun! We Hope.

The message that was sent to us was entitled "*Food for Thought.*" It was reprinted on a slip attached to morning papers distributed to the guests in a Florida resort hotel, but it was credited to *The New Yorker.*

It came to us from an executive of this industry:

In 1923, a very important meeting was held at the Edgewater Beach Hotel in Chicago. Attending this meeting were eight of the world's most successful financiers. Those present were:

The president of the largest independent steel company;
The president of the largest utility company;
The greatest wheat speculator;
The president of the New York Stock Exchange;
A member of the President's Cabinet;
The greatest "bear" in Wall Street;
Head of the world's greatest monopoly;
President of the Bank of International Settlements.

Certainly we must admit that here were gathered a group of the world's most successful men. At least, men who had found the secret of "making money." Twenty-five years later let's see where these men are:

The president of the largest independent steel company—Charles Schwab—died a bankrupt and lived on borrowed money for five years before his death.

The president of the greatest utility company—Samuel Insull—died a fugitive from justice and penniless in a foreign land.

The greatest wheat speculator—Arthur Cutten—died abroad—insolvent.

The president of the New York Stock Exchange—Richard Whitney—was recently released from Sing Sing Penitentiary.

The member of the President's Cabinet—Albert Fall—was pardoned from prison so he could die at home.

The greatest "bear" in Wall Street—Jesse Livermore—died a suicide.

The head of the greatest monopoly—Ivar Krueger—died a suicide.

The president of the Bank of International Settlement—Leon Fraser—died a suicide.

All of these men learned well the art of making money, but not one of them learned how to LIVE.

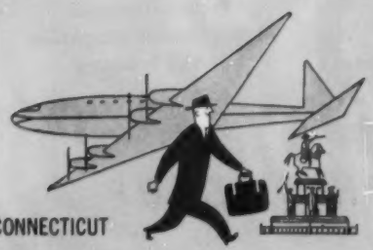
Paper Mill Cities Rate High

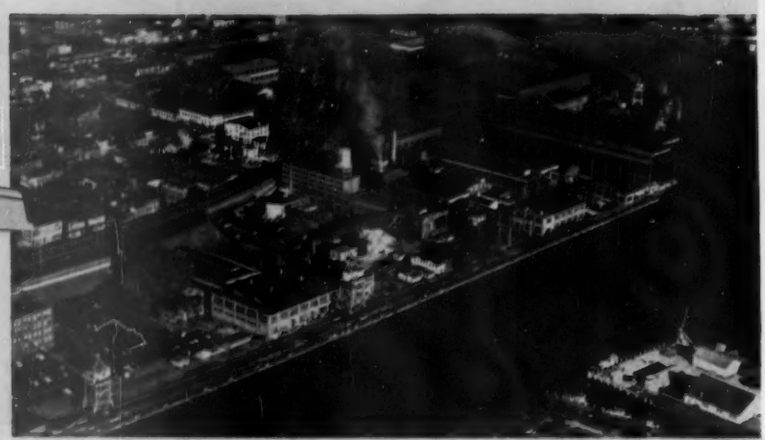
The National Municipal League and *Look* magazine ran off a contest recently to pick the All-American cities of the U.S. on the basis of good citizenship, better government and noteworthy progress.

It is interesting to note the high percentage of pulp and paper mill towns among the winners from a field of 115 nominated cities.

Port Angeles, Wash., where there are three mills, was one of the eleven winners, along with Shreveport, La., which is so close to one of the three biggest mills in the world (Springhill) that its citizenship achievements must be akin to that of the mill community, too. Richmond, Calif., another winner, has two board mills. Those are three in the first 11.

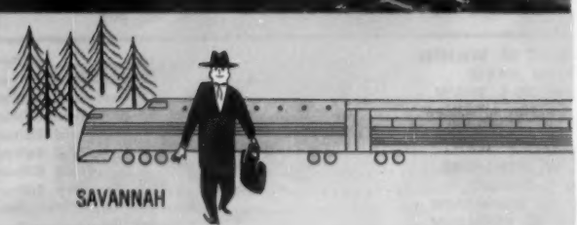
There are also three among the 11 runners-up. One is Hamilton, O., home of Champion Paper, Beckett Paper and Black-Clawson and other firms directly interested in paper. The other two are Lawrence, Mass., and Grand Rapids, Mich.





CLOSER...

by hours and even days



Every paper mill in the country is now closer to Puseyjones engineering service by hours and even days. A new sales policy has put Puseyjones engineers in the field — at your service 24 hours a day.

Sales engineers who formerly worked out of the home office on special assignment are now assigned to specific territories — *there is one near you.* Their assistance in planning a machine rebuilding program or expediting the delivery of a vitally needed part is yours to command.

This new policy of the 105-year-old Puseyjones organization is evidence of our determination to back up our skill in the design and building of complete fourdrinier and cylinder machines with the finest service in the industry. Next time — put it up to Puseyjones and find out for yourself.

THE PUSEY AND JONES CORPORATION

Established 1848. Builders of Paper-Making Machinery

Fabricators and Welders of all classes of Steel and Alloy Products

Wilmington 99, Delaware, U.S.A.

Have you investigated the advantages of the Ammonium Bisulphite Pulping Process?

Get the facts now on how you can produce bigger yields of better quality pulp at lower cost with the Ammonium Bisulphite Pulping Process. Pioneered by Nitrogen Division, the process is the most important recent development in acid pulping.

Without charge or obligation, let a member of Nitrogen Division's technical staff give you all the facts. He will show you how to convert your mill to this process at very low cost and with practically no loss of production during the change-over period.

Improve your position in acid pulping. Write, wire or telephone! Your inquiry will receive prompt attention.

1. More Pulp from Wood: The Ammonium Bisulphite Process produces a higher proportion of acceptable pulp, thus increasing the capacity of knotters and fine screen equipment. Also increases the capacity of deckers and washers because of the increased freeness of the pulp.

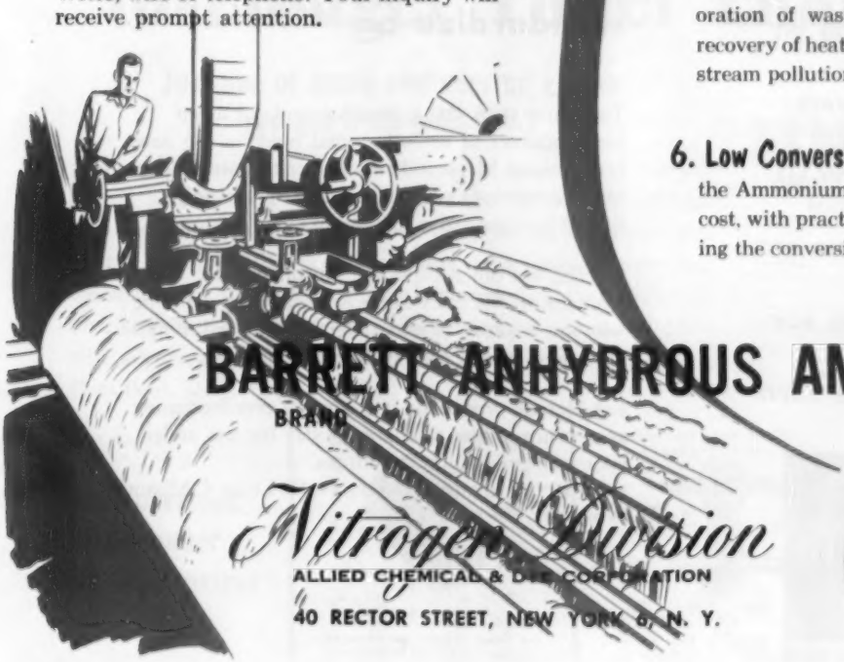
2. Better Quality Pulp: The Process produces stronger, lower ash, brighter unbleached pulp, more uniform quality gradation, and lower screened speck count. Less bleach chemical is needed to bleach ammonia base pulps.

3. Saves Steam: Cooking time and maximum temperature are reduced because of superior penetration of chips by ammonia. Maximum temperature has been reduced as much as 30° F.

4. Saves Money: One ton of ammonia replaces three tons of limestone in the pulping process. Saves the labor of handling limestone, and eliminates scaling and other undesirable effects of calcium base acid in all sections of the mill.

5. Abates Stream Pollution: The Ammonium Bisulphite Process lends itself readily to evaporation of waste liquor and combustion and recovery of heat and chemicals, thus overcoming stream pollution.

6. Low Conversion Costs: You can convert to the Ammonium Bisulphite Process at very low cost, with practically no loss of production during the conversion period.



BARRETT ANHYDROUS AMMONIA

BRAND

Nitrogen Division

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

NITROGEN DIVISION ALLIED CHEMICAL

REDUCE FOAM AT THESE 11 PROBLEM POINTS

BEATER SWELLING

FOAM AT THE SCREENS

FOAM IN THE HEADBOX

FIBER FLOCCULATION

STOCK PUMP BINDING

FOAM IN THE WIRE PIT

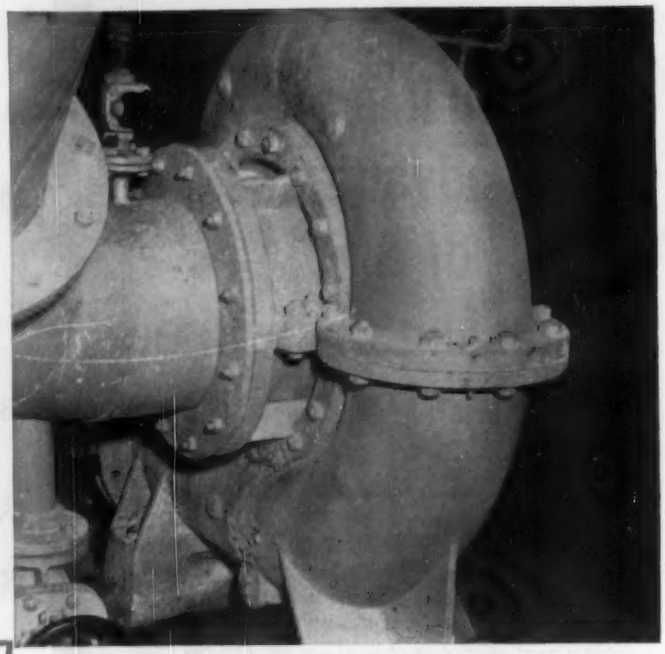
FOAM IN THE VATS

FOAM AT THE SAVE-ALL

FOAM AT THE MIXING BOX

FOAM AT THE SEAL BOX

FOAM SPOTS IN THE PAPER



For low foaming—high efficiency standardize on MERSIZE

To reduce stock pump binding—and cut down foam troubles at ten other vital points – use new *low-foaming* Mersize. From beater to finished paper, Mersize will help you lick problems commonly caused by sizes with a high foam index.

Mersize has other important advantages, too. High sizing efficiency and low sizing cost combine with low foaming to make Mersize standard in mills that insist on the best available sizing agent.

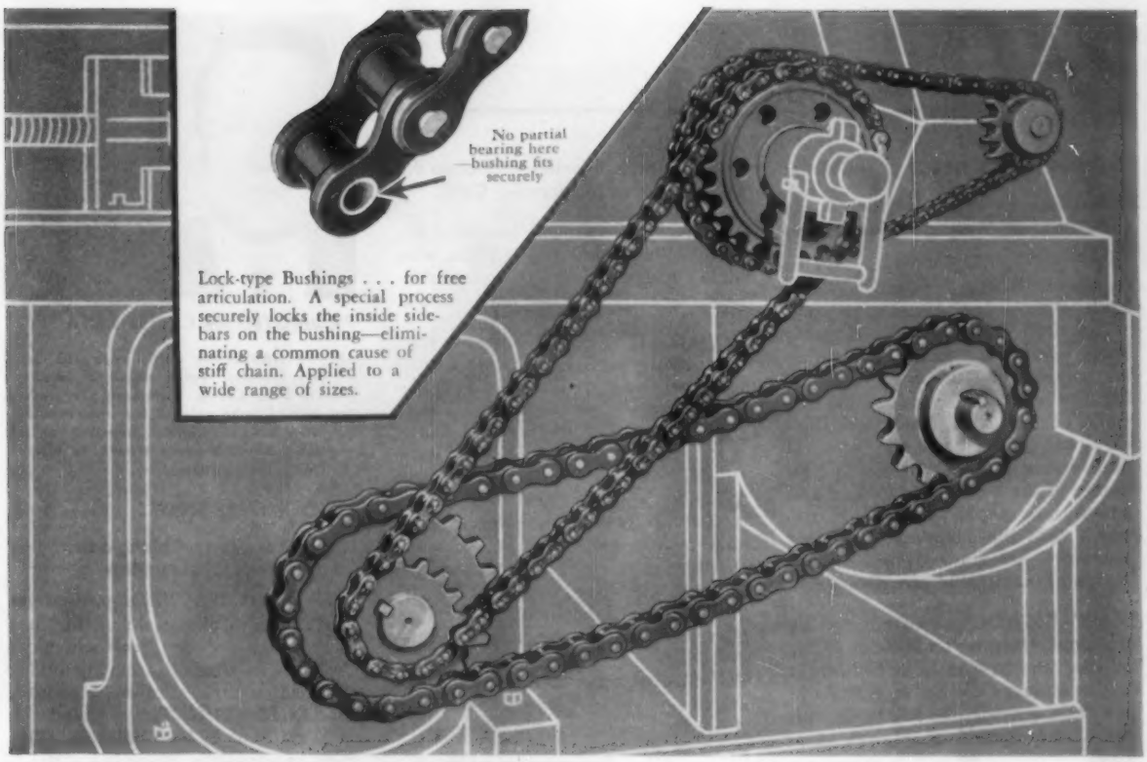
Let Mersize *prove* why it is earning ever-increasing acceptance. Order a tank car today for use under your own production conditions.

MONSANTO CHEMICAL COMPANY, St. Louis 4, Missouri.

Mersize: Reg. U. S. Pat. Off.

MONSANTO

SERVING INDUSTRY... WHICH SERVES MANKIND



Look to LOCK-TYPE BUSHINGS for longer roller chain life

Just one of many engineering extras you get from LINK-BELT

FOR drives that must operate under severe conditions, it will pay you to use Link-Belt Precision Steel Roller Chain. Lock-type bushings and the many other Link-Belt engineering extras add up to *built-in* extra life. Whether it's for power transmission or conveying, you are assured of a positive, flexible, economical chain . . . with high sustained efficiency. For complete information, see your nearby Link-Belt sales representative or distributor, or write for Engineering Data Book 2457.

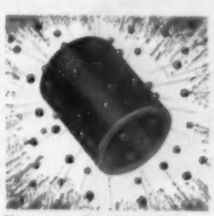
LINK-BELT

ROLLER CHAINS & SPROCKETS

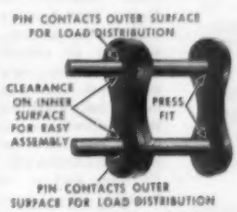
LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle; Scarboro, Toronto and Elmira, Ont. (Canada); Springs (South Africa); Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities.

10.330-A

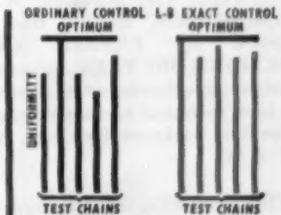
Don't overlook these other LINK-BELT extras



Shot-peened rollers have extra fatigue life under impact.



Couple and uncouple multiple-width chains more easily.



Closer heat treat control helps attain greater uniformity.

PULP & PAPER PERSONALS

CALIFORNIA NOTES

Miller Moves from Elkhart
Tom Jordan Manages Fernstrom

NORMAN GREENAWAY, vice president, Robert Gair Co., New York, was in Los Angeles recently completing purchase of Angelus Paper Box Co., thus establishing the company on the west coast for the first time. He was accompanied by *OTTO MILLER*, from their Elkhart, Ind., mill, and the latter is transferring to Los Angeles to take charge of the board mill, folding and set-up box depts. *AL BUSH* remains with the company, becoming assistant secretary-treasurer, in charge of corrugated box division.

CLIFF NICHOLS, assistant to the president, Huntington Rubber Mills, Seattle, was in Southern California in late January calling on friends in the trade, revealed he has been with Huntington nearly a quarter century.

S. J. KALOF, president, Quaker Container Co., 5050 Pacific Blvd., Los Angeles, is stepping up daily capacity of the 4-cyl. board mill at Richmond, Calif., from 50 to 70 tons. Another cylinder, additional pressing and drying equipment is being added. *ZEKE SHOWHAN*, formerly superintendent at Angelus Paper Box Co., Los Angeles, is resident manager at Richmond.

MARK ANDRE, head of Andre Paper Box Co., has purchased the property and salvaged equipment from the recently destroyed by fire, Pacific Paperboard Co., Longview, Wash. Future plans have not been formulated.

THOMAS JORDAN, formerly of International Paper Co., has been named manager of Fernstrom division, Potlatch Industries, Pomona, Calif. *RALPH ATKINS*, formerly of Lee Paper Co., Vicksburg, Mich., has left the company, going to Gilbert Paper Co., Menasha, Wis., as superintendent. He has been succeeded by *ERNEST ZANDS*. *RICHARD BUCKLEY*, formerly assistant superintendent at Fernstrom, is now technical service representative for Lockport Felt Co., for all U. S. A.

WILLIAM WOODS is general manager for the new Personal Products Corp. plant, converters of woodpulp, being built at Sunnyvale, Calif.

GEORGE ADAMSON, technical director, Philippines Paper Mills, who makes his headquarters at Los Angeles, recently returned from Manila.

ROBERT W. STEVENS, paper mill consultant, Los Angeles, recently returned from his fifth trip to Sweden where he has engineered a new paperboard mill for Fiskeby Fabriks, A.B., Norrkoping, working with Black-Clawson-Shartle engineers. The mill, using American equipment, is first of its kind in Scandinavia, and started operation in January. Present capacity is 120 tons daily, but will be stepped up eventually to 250 tons. Board machine is by Black-Clawson, 142 in. trim, seven cylinders. Bob took Mrs. Stevens along. They visited most of Europe by air, and then flew to Central and South America, completing the entire tour in 12 days.

BOB STEVENS is also consultant for Sidney Roofing & Paper Co., Victoria, B. C., doubling capacity of its paperboard plant to 90 tons by addition of stock preparation, drying equipment, and complete rebuilding of wet end.

T. S. "TED" MARKOV, chairman, Papermakers and Associates of Southern California, presided over the biggest attendance for the bi-monthly dinner meetings in a couple years, Jan. 21, at San Marino, near Los Angeles. Topic was printing inks, with *ERNIE GREEN*, Interchemical Corp., *ANDY COTTRILL*, General Printink Ink Co., *DAVE McCASH*, California Ink Co., and *AL SETH*, Sinclair & Valentine Co., as speakers. *ROBERT W. LEWIS*, Association secretary-treasurer, assisted with the overflow meeting.

ESCO-HILLS, McCANNA LIAISON

RALPH SIECHEN, Project Engineer for Electric Steel Foundry Co., Portland, Ore., will act as contact man in the new agreement whereby Esco has become stock distributor in Pacific Northwest for HILLS-McCANNA CO., Chicago, makers of Saunder diaphragm valves, metering pumps, etc.

PROMOTED IN CALIFORNIA

ARTHUR HAUSCHILD (left), appointed Supt. of San Leandro, Calif., plant of Western Waxed Div., Crown Zellerbach, succeeding Von Hunter, who entered his own business. CLAYTON HAYES (right), promoted at Los Angeles plant of Western Waxed, to succeed Mr. Hauschild as Supt.

MIDDLE WEST NOTES

Hooker Adds to Chicago Staff; Two New Hercules Men

HAROLD A. WEVER, a graduate of Dartmouth College in 1943, has joined the Hooker Electrochemical Co. staff in Chicago, serving under Midwest district sales manager, *CHARLES CAIN*. This swelled the sales staff out of 1 La Salle St., Chicago, to four—the others being *BILL GILLESPIE* and *JOHN WALMSLEY*. *DON McKECHNIE* is office manager. The new Hooker chlorine-caustic soda plant at Montague, Mich., is primary reason for the increased staff.

LESLIE HILL, assistant mill superintendent for KVP at Parchment, Mich., known to friends as Slats, has been 30 years with that company, starting as a roll man.

PHIL AVERY, chemist in the Parchment (Mich.), lab., attended Kalamazoo College two years before going to Annapolis where he discovered rolling decks were not for him, and he completed his education in paper courses under Dr. Al Nadelman at Western Michigan College before joining KVP.

VICTOR WIRPSA now represents Sutherland Paper Co in Toledo, O., as sales representative.

MAURICE J. KELLY, Univ. of Wisconsin chemical engineering grad, and *JOHN RUDDELL*, Indiana University graduate, now have joined the Paper Makers Chemicals Dept. staff of Hercules Powder Co. at their important Kalamazoo plant. Mr. Ruddell was with Badger Ordnance Works in Badger, Wis., during the war.

Continued on page 14

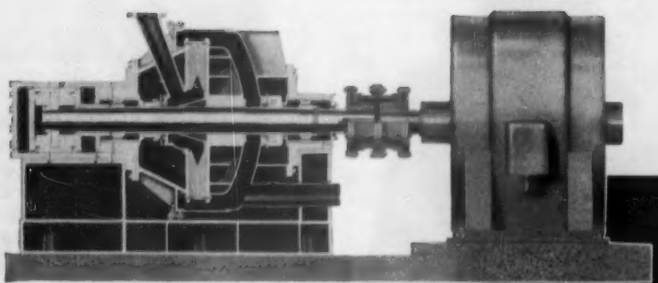
value in a fine product

reflects the experience and skills of its makers.

value in Fourdrinier wires is a matter of record ... paper quality and production records in mills throughout America reflect the fact that Appleton Wires are Good Wires!

APPLETON WIRE WORKS, INC., APPLETON, WISCONSIN

ANOTHER BAUER FIRST...



Bauer

"PUMP-THROUGH" STOCK REFINER

The Bauer No. 440 is an entirely new kind of pulp refiner. Retention time of the stock between the refining discs is controlled by a valving system in the discharge line. Specific kinds of stock treatment can be effected with various plate designs which are made without the limitations of controlling flow.

Normally the stock is pumped into the Refiner, but gravity feed can also be accommodated. The refined stock leaves the machine under a positive pressure, eliminating the necessity of stock chests and auxiliary pumps.

The operation of the No. 440 Refiner is simple indeed. Flow is regulated by a meter, and disc clearance is set automatically by hydraulic pressure. Motor loading is finger-tip controlled. This is a new and unique concept of stock preparation. Patents have been applied for.

Production has been started on the No. 440 machine with 44-inch diameter discs, which is suitable for operations up to 750 hp. Inexpensive and replaceable plates of a modified Ni-Hard Alloy are standard, but Bauer X-Alloy (stainless iron) or stainless steel plates are available.

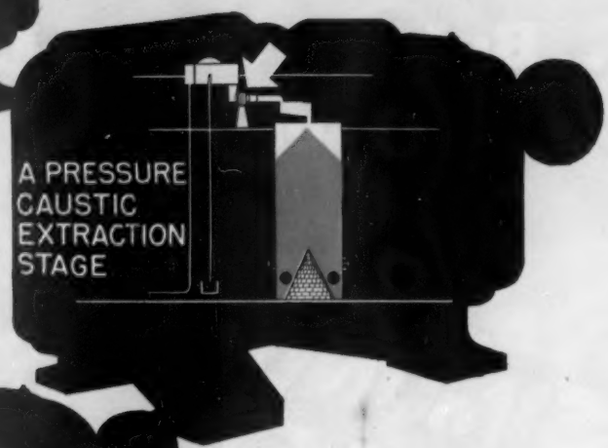
Printed literature is not yet available, but you are invited to contact our sales engineers or to write or call directly to Springfield for more detailed information on this new Refiner or other items in Bauer's complete new line of integrated pulp plant equipment.

THE BAUER BROS. CO.

1706 SHERIDAN AVE. • SPRINGFIELD, OHIO

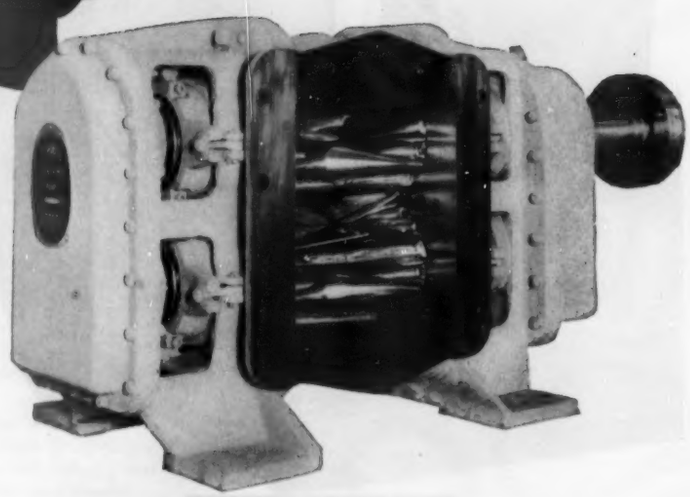
THICK STOCK PUMP

PUMPING 10%-17% PULP



IMPCO

SERIES - 300**
SERIES - 500**



This unit is a positive displacement type pump specifically designed to handle pulps at high densities. The conical profile of its synchronous rotors permits the pumping of stock at densities above 10% A.D.—with lowest horsepower per ton—and no fibre damage. Truly the modern way to handle all types of pulp.

***Tons per day**

IMPROVED MACHINERY INC. J-35

NASHUA, NEW HAMPSHIRE

Sherbrooke Machineries Limited manufacture similar equipment in Canada.

PERSONALS — Continued

MIDDLE WEST NOTES

FRED S. SEABORNE, manufacturing vice president, has been elected a director of Kimberly-Clark Corp.

LEONARD J. TIMMER, of Kalamazoo, won both American Paper & Twine Assn. and Supts. Assn. scholarships at Western Michigan College. Other P & T scholarships went to *DONALD G. PRYOR,* Kalamazoo, and *THOMAS R. MURWIN,* Menominee, Mich. Other P & T awards went to *DAVID F. FORSMAN,* Rhinelander, Wis., and *JAKE VAN GIESSEN,* Kalamazoo. *CHARLES W. ACKERMAN,* of Vicksburg, Mich., won the Norman Bardeen scholarship. *CHARLES E. ELLIOTT* of Battle Creek, Mich., won the Kalamazoo Tappi section award. The group divided some $1,800.

D. H. MACINTOSH, chemical sales, Detroit, Mich., and several Dow men from Midland comprised a sizable Dow delegation at the January joint meeting in Kalamazoo.

GEORGE H. McGREGOR, development engineer at M & O Paper Co., International Falls, where it hit 40 below recently, was being seen in action again at Paper Week in New York in February in a familiar role —serving as the moderator of a panel on acid pulping.

H. R. BOGNER, with Douglas Robbins & Co., equipment representatives in Middletown, O., still makes his home at Minooka, Ill. He was formerly a Chicago sales rep.

CLYDE W. DOOLEY, who has moved to 676 South Shore, Kalamazoo, for J. E. Rhoads & Sons, leather belting, and industrial leather, was being introduced to new friends in Michigan by *KEN McCLELLAND,* Midwest Mgr. with offices in Chicago.

JACK R. AYERS, widely known in Midwest as representative of E. D. Jones & Sons Co., told friends at the meeting he was moving soon to live in the Middle West and cut down some wear and tear of travel from New England.

BERT McCORD, sales rep for Wyandotte Chemicals, was over cross-state to meet with *JACK VANDERBERG,* who with *DAVE HOWARD,* of Kalamazoo, are Wyandotte special reps now.

PROMOTED IN OHIO MILLS

THOMAS G. ZENTER (left), who last year was winner of the Westbrook Steele Award when he received his Ph. D. from the Institute of Paper Chemistry, in Appleton, Wis., is newly appointed Technical Supervisor of the Lockland, O., carton plant of The Gardner Board & Carton Co. He is graduate of Texas A. & M. and served two years in Marines in World War II. He joined Gardner in 1952.

CHARLES S. SWEITZER (right), who also joined Gardner in 1952, has been promoted to Technical Supervisor of Mill 2 at Middletown, O. He graduated from Syracuse in pulp and paper and likewise served two years with the Marines in the war.

LESLIE H. MOYER has been named office manager and *EDWIN P. BARTLETT* is personnel director and purchasing agent for the new Hooker caustic soda-chlorine plant, at Montague, Mich., which is—incidentally—15 miles from the Muskegon mill recently acquired by S. D. Warren. Born and raised in Canada, Mr. Moyer took p.g. courses after joining Hooker at Niagara Falls which fitted him for building Hooker Type S electrolytic cells for defense plants. Mr. Bartlett is a Dartmouth graduate, from Indiana, and served in industrial relations for Hooker.

WILLIAM ROBERTS, president of Fox River Paper Corp., announces *ARTHUR C. AUSTIN* has been named converting sales manager, *HENRY KRUEGER* succeeded him as eastern sales manager, *FRED SCHREIBER* succeeded Mr. Kreuger as order department manager, *JOHN S. WALWORTH* is new midwest manager.

ROBERT A. BOWMAN, based in Middletown, O., covers west Ohio, Michigan, Indiana and Kentucky in sales for Crystal Tissue Co. *RICHARD O. BRUMLEY* goes to Webster Groves, Mo., to cover 11 western states. *HOMER WERNER,* now based at Pittsburgh will move to Canton, O., and cover five states.

ROBERT FAEGRE, executive vice president, M & O Paper Co., has been elected to the board of Northwestern National Life Insurance Co., of Minneapolis.

NEWS FROM THE SOUTH

Heads Rotary Club; Sonoco Elects Officers

GEORGE W. BOLLINGER, superintendent of power, electrical and instruments at West Virginia Pulp & Paper Co., Charleston, S. C., is president of the Rotary Club in that city.

JOHN H. MARTIN, general production manager of Sonoco Products Co., Hartsville, S. C., was elected a vice president of that firm. *R. A. TERRY,* former chief accountant was made treasurer and director, succeeding the late *J. B. GILBERT. E. O. PLAYER,* a paper mill supervisor at Sonoco, was recently given a 30 year service watch.

MITCHELL J. STANKIEWICZ has joined Brunswick Pulp & Paper Co., Brunswick, Ga., as logging engineer attached to the Woodlands Division. He is a graduate in forestry from the University of New Hampshire, and spent the past nine years with Brown Co. His assignment will be to improve and develop methods of pulpwood harvesting and transportation, and advance utilization of hardwoods in the Brunswick area.

NORTHEAST NOTES

Lefty Smith Still On St. Regis Staff

LESTER J. (Lefty) SMITH, former manager of St. Regis Harrisville, N.Y., mill which was sold, is continuing his association with St. Regis in northern New York and is presently engaged on special manufacturing projects.

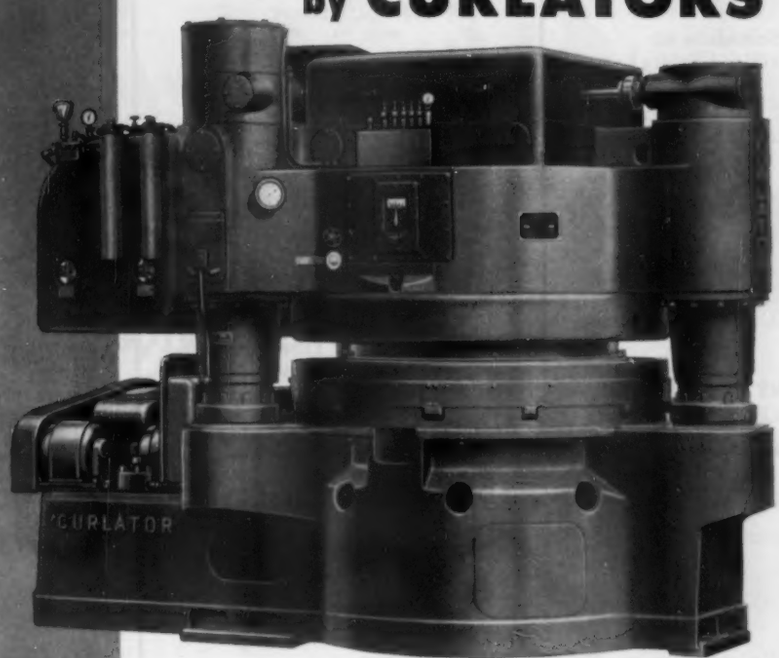
STIRLING MURRAY RUST, chairman and founder of The Rust Engineering Co., died at 72 on Jan. 29 at a Pittsburgh hospital. He started as a laborer and blue print boy in the Pittsburgh steel plants and formed the engineering firm with his two brothers in 1905.

ALAN J. WOODFIELD has been named vice president and controller of Continental Paper Co. and its subsidiary, Alford Cartons, in Ridgefield Park, N.J. He was manager of industrial engineering and personnel relations there after working with other firms.

Continued on page 20

NOW Commercial 65% Yield News Sulphite is Here!

. . . made possible by CURLATORS



in continuous MILL OPERATION

CURLATOR

The Curlator is the first and only machine to produce a first-class news sulphite pulp at 65 per cent yield in full scale commercial operation.

This "semi-sulphite" replaces normal low yield sulphite pulp pound for pound in the newsprint furnish.

65% YIELD OF NO. 1 SULPHITE FOR NEWSPRINT

UP TO 30% SAVING IN WOOD ALONE *PLUS* UP TO 30% SAVING IN SULPHUR, LIMESTONE AND STEAM

43% INCREASE IN DIGESTER CAPACITY

CURLATOR* Corporation
EAST ROCHESTER, NEW YORK

WRITE for News Bulletin on Commercial 65% yield News Sulphite.

*T.M. Reg.—Curlator Corporation, Rochester, N. Y.

Engineers – here's how a *Speedline* system will cut your piping costs!

on pressure problems

If You Use Schedule 40 Pipe at 150 psi Operating Pressure

Schedule 40:
100 to 1 Safety Factor

Lighter Wall will Meet Pressure Safety Requirements

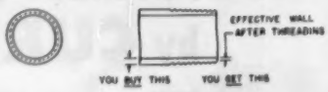
Schedule 10:
83 to 1 Safety Factor

Schedule 5:
50 to 1 Safety Factor

BUY ALL THE WALL YOU *NEED* . . . DON'T BUY *MORE*

on flow problems

If You Use Screwed Fittings



You Lose One Half The Wall You Bought—AT THE THREADS

Lighter Wall Plus Speedline Fittings Give You:

GREATER INSIDE AREA • MORE FLOW
LOWER PRESSURE DROP

You get *greater flow and capacity* in light-wall pipe. For example, Schedule 5 has 15% to 25% more capacity than Schedule 40.

on corrosion problems

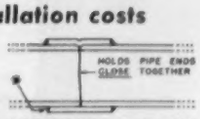
CORRECT ANALYSIS will combat CORROSION regardless of Wall Thickness

Type Corrosion	More Wall?
Contamination	No advantage
Discoloration	No advantage
Intergranular	No advantage
Galvanic	No advantage
Atmospheric	May be advantage
Pitting	Little advantage
Inches Penetration Year	May be advantage

CHANGED ANALYSIS and LESS WALL can be GREATER COST ADVANTAGE than CHANGED ANALYSIS and SAME WALL.

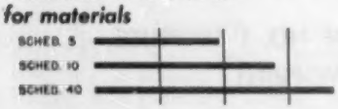
Speedline FITTINGS DESIGNED FOR SCHEDULES 5 AND 10 GIVE YOU:

lower installation costs for labor



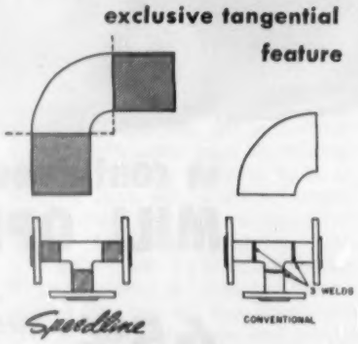
SPEEDLINE ALIGNING CONNECTORS
Speed Installation
*Can be Welded, Fused, Soldered or Brazed
Provide Easy Change-over from Schedule 40 to 5 or 10

for materials



You pay much less for light wall pipe. Here's a cost comparison of the three schedules in 1" size.

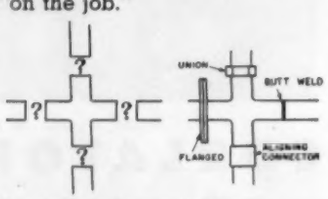
exclusive tangential feature



Provides Easier Aligning (with or without aligning connectors), more clearance for Welding or Flanging on ALL Speedline Formed Fittings. See gray panel below.

greater flexibility

Type of Joint can be selected "on the job."

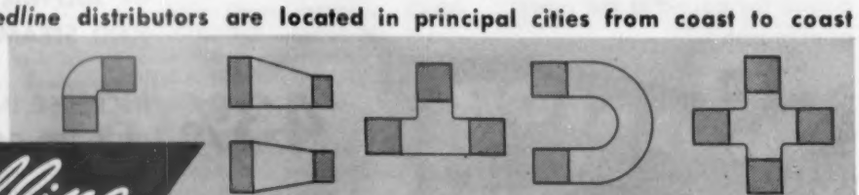


FEWER DESIGN HOURS
FEWER INVENTORY ITEMS

SPEEDLINE "Multiple Choice" Fittings eliminate conventional flanged fittings, provide time and cost advantages of simple layouts versus elaborate and costly designs.

Speedline distributors are located in principal cities from coast to coast

Write for a copy of "Speedline Fittings"...without obligation.



Speedline

Corrosion-Resistant FITTINGS—the newest thing in pipeline economy

Manufactured by **HORACE T. POTTS CO.** · 550 E. Erie Avenue · Philadelphia 34, Penna.

John Wanamaker

"Ad-About-Town"

seen in the smartest places

Retailers are quick to see the value of packages in color as "traveling advertisements" for their stores. Color—a unique color unlike any other in town—is the best way a store can put its distinctive personality into every package.

Help your retailer-customers achieve prominent store identification by offering each a color that looks "tailor-made" for him. Your efforts will lead to *new* orders and *re*-orders. For, once chosen, this unique color should be used on wrapping paper, bags, boxes and gummed tape—every kind of packaging material you sell.

There are hundreds of shades to choose from in adapting a distinctive package color for each store in town. Call on Du Pont for help in color selection and for technical assistance in selecting the right dye. For more information, write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

FOR MAXIMUM ECONOMY—*Du Pont basic dyes*
FOR MAXIMUM SOLUBILITY—*Du Pont acid dyes*
FOR MAXIMUM LIGHT FASTNESS—
Du Pont dispersed organic pigments: "MONASTRAL"* Fast Blues—"MONASTRAL"* Fast Greens—"LITHOSOL"* Pigments

*REG. U. S. PAT. OFF.

Du Pont Dyes

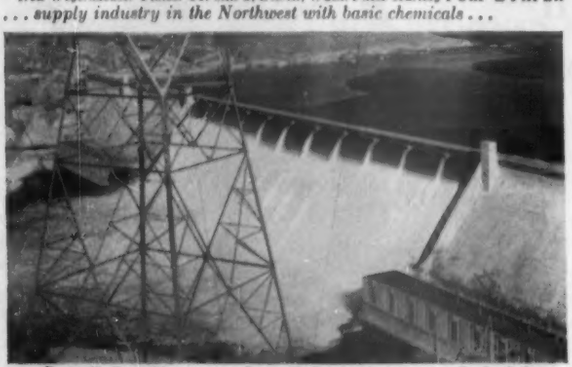
DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

These Pennsalt Plants at Portland, Ore. (left) and Tacoma, Wash.

New Weyerhaeuser Timber Co. mill at Everett, Wash. Photo courtesy PULP & PAPER
. . . supply industry in the Northwest with basic chemicals . . .



Bonneville Dam. Photo courtesy Bonneville Power Administration, Portland, Oregon
. . . made with the help of Hydro-Electric Power . . .

. . . and utilize all types of bulk transportation to "deliver the goods"

Helping to Build the Northwest

How Pennsalt, a basic chemical manufacturer has become an integral part of a great growing area

With two busy plants in the Northwest, at Tacoma and Portland, Pennsalt has long been an active, dedicated contributor to this region's development. Because of their location, these plants save nearby industry time, trouble, and expense in the buying of chemicals.

Many current Pennsalt products have been improved specifically to meet the needs of this area. For example, Pennsalt Sodium Chlorate is now helping to produce better, whiter pulp.

Handling methods, too, have been tailor-made to the Northwest: Pennsalt ships its products in drums, tank cars, tank trucks, barges—by whatever means best serves the customer.

The Company has also developed numerous basic chemicals and chemical specialties required by Northwest industries. For example, Pennsalt insecticides are widely used by apple growers.

Pennsalt's success is in no small way dependent on the region's vast resources. The Company extensively uses hydro-electric power, and the nearby ocean, through solar salt beds, provides an essential raw material.

And yet, with all its accomplishments, the Northwest is young. In coming years it will grow and prosper in a thousand ways. Pennsalt intends to contribute to that future in every way possible.

Pennsalt Chemicals

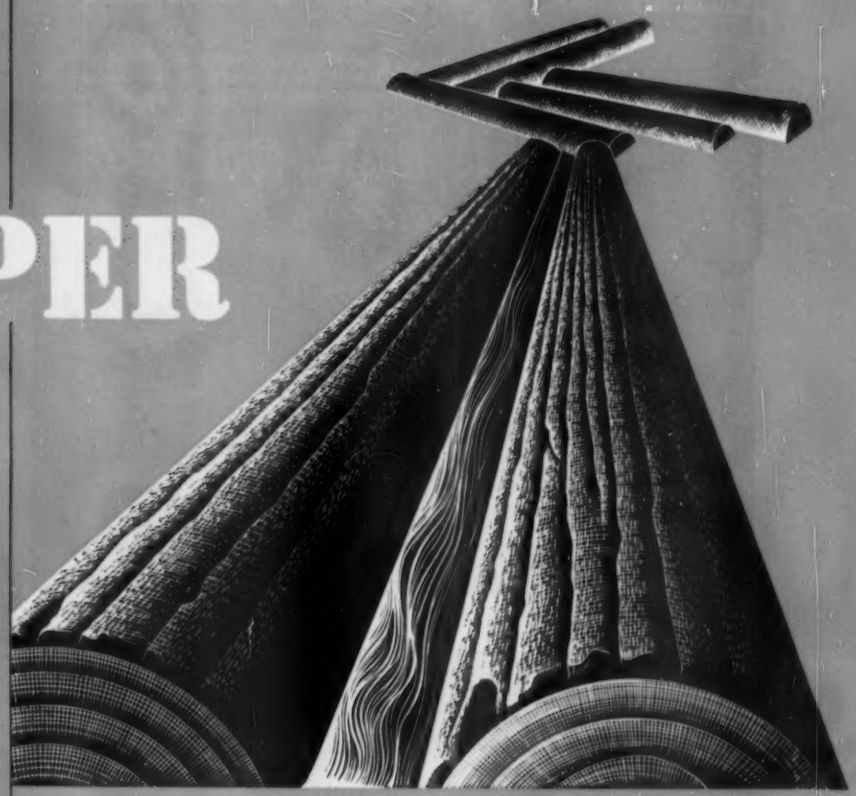
DISTRICT OFFICES AND TELEPHONES

Berkeley 4, Calif.—Ashberry 3-2537 • Portland, Ore.—Atwater 7655
Los Angeles 11, Calif.—Jefferson 6244 • Tacoma 1, Wash.—Market 9101

PENNSYLVANIA SALT MANUFACTURING COMPANY OF WASHINGTON
2901 Taylor Way, Tacoma 1, Washington

WOOD PULP

PAPER



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BULKLEY, DUNTON PULP CO., INC.
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BULKLEY, DUNTON CELLULOSE EXPORTS, INC.
BULKLEY, DUNTON PAPER (FAR EAST) CO., INC.
BULKLEY, DUNTON PROCESSES, INC.
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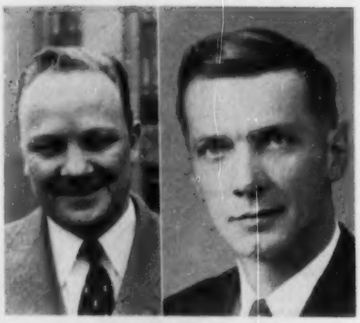
in the United States, Europe, Latin America, Africa, and Asia

PERSONALS — Continued

NORTHEAST NOTES

J. J. FORSYTHE will implement International Paper Company's development program from his new post as specialty engineer at the company's Niagara Falls, N.Y., mill. Mr. Forsythe is a Northwestern graduate, and spent two years at Institute of Paper Chemistry, and joined I.P. in 1947 following experience with Fraser Paper Ltd. and Waxide Paper Co. of St. Louis.

DR. EDWIN C. JAHN, associate dean at New York College of Forestry, was one of a committee of experts meeting in Sweden in February to appoint a new professor of pulp and paper technology at the Royal Technical University at Stockholm. Dr. Jahn's visit is being extended to include lectures at the university in the fields of plastics applications to paper, new pulping techniques, wood chemistry, etc.



IN RECENT INDUSTRY NEWS

DON KNIGHT (left), Bulkley, Dunton Pulp Co., Kalamazoo, Mich., who recently made tour of Pacific Northwest mills. Graduate of Dartmouth, he went to Kalamazoo several years ago from New England to be assistant to Vice Pres. Milton Bailey.

DOUGLAS P. NEWCOMBE (right), Plant Engineer for past 6 years with Crocker, Burbank & Co., who has joined Orton Corp., Fitchburg, Mass., as Sales Engineer for Northeast states. Orton represents Morden Machines, Moore & White Co., W. P. Evans & Sons, Brandon Sales, and Tidland Machine Co.

WILLIAM F. SCANLAN has been transferred to the Philadelphia, Pa., office of Swenson Division of Whiting Corp. from which he will act as sales engineer serving the chemical and pulp and paper industries. A Purdue graduate, he has been assigned since 1951 to Whiting's Texas offices.

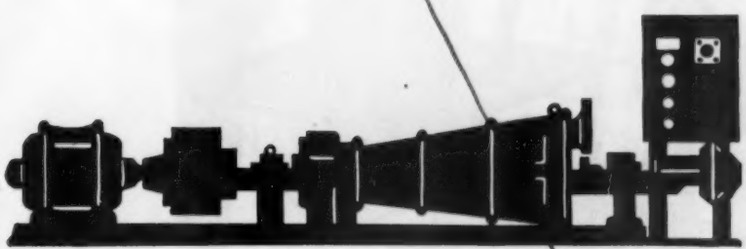
DR. GEORGE B. CREAMER is manager of technical services for Rayonier Inc., New York City, moving to this post from the company's research division at Shelton, Wash. He replaces *DR. MAURICE E. KINSEY*, and will be associated closely with *MICHAEL A. BROWN*, manager of sales, in the new position.

FRITZ MEYER has been appointed president, and *O. F. HUTCHINSON*, director of sales, for Sveen-Pedersen Sales Corp., Long Island City, N.Y. Mr. Meyer is credited with large responsibility in development of the flotation saveall, and Mr. Hutchinson was formerly with Bulkley Dunton Processes where he had flotation clarification experience.

JULIAN J. BOYCE, recently in the sales office at Niagara Falls, has been made a field salesman for Hooker Electrochemical Co. with headquarters in Philadelphia. He is a graduate of Virginia Polytechnic Institute. *ERNEST F. BLEW*, a Rensselaer Poly graduate, has become a Hooker field salesman with headquarters in New York. Mr. Blew was a chemical engineer in the process study department.

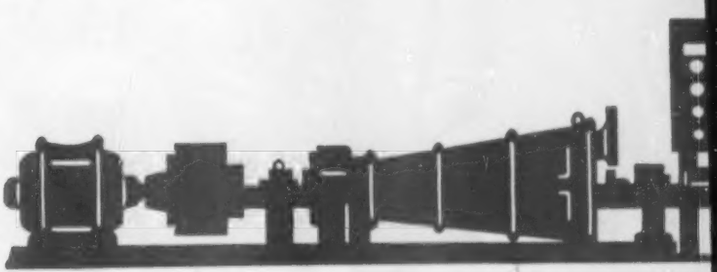
Continued on page 26

BOLTON Fillings last longer in *any* Jordan

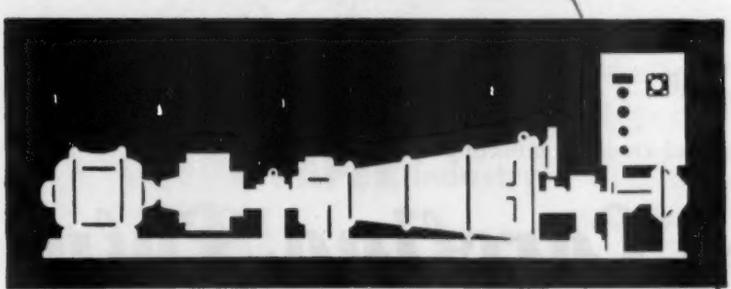


High quality precision-made **Bolton fillings** will last longer in any Jordan, whatever its make or design. Technical skills and knowledge, gained through many years of experience, go into the selection and treatment of the metals and woods. Meticulous attention to the details of machining, assembly and fitting insures maximum life and satisfactory service. **Bolton fillings** are made for any design of Jordan. In addition to those listed, other metals and separators are available for individual requirements.

BOLTON SPECIAL HEAT TREATED STEEL
Metal specially selected and heat treated by Bolton for use where service is hard. Tough, terrifically hard steel stands up under severest use and abuse.



BOLTON PHOSPHOR BRONZE
Particularly adaptable where brushing and hydration are required, and minimum cutting is needed. This Phosphor Bronze is practically immune even to extreme acidity. The edges of a set of Phosphor Bronze fillings will last for years under acid conditions that wash away steel edges in months.



BOLTON SPECIAL STAINLESS STEEL — A true stainless steel specially hardened, with corrosion resistance well beyond requirements in the paper industry.

"He who buys BOLTON buys best"

John W. BOLTON & Sons, Inc.

Lawrence, Massachusetts, U.S.A.

Quick Service

to the PULP & PAPER industry

WESTERN GEAR WORKS offer a lot of specialized gear engineering skills to the Pulp and Paper industry. We design, build, test and produce in quantity a wide range of gear equipment; transmissions, paper machinery drives, high speed units, speed reducers, gears and special transmission parts.

May we serve you?

Bulletins Available

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Write, wire or phone your nearest Pacific-Western office

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PERSONALS — Continued

NORTHEAST NOTES

VAL ALBERT and *ABEL CLOUTIER*, both Brown Co., Berlin, N.H., employes, were honored recently by American Legion Posts in Berlin for their life-saving efforts during the past summer. Mr. Albert was successful in two rescues, and in the second was heroically assisted by Mr. Cloutier in saving a family of five thrown into the water from a capsized motor boat.

R. W. HOOKER, vice president of Hooker Electrochemical, Niagara Falls, was elected to his sixth term as president of The Chlorine Institute, Inc. *R. E. WILKIN*, vice president and sales manager of Hooker, has been busy lately addressing purchasing agents in New York and Chicago.

BANCROFT W. HENDERSON has been appointed director of sales of the Organic Chemicals Div., American Cyanamid Co., Bound Brook, N.J.

JOHN VERDON WITH CYANAMID; BROMBACHER HEADS MEAD PURCHASES

JOHN VERDON (left), of Kalamazoo, has followed his brother Jim's footsteps, and is now selling for American Cyanamid Co. to paper industry of Southern Michigan, according to GEORGE FROMM, Cyanamid's Midwest Regional Mgr. for paper makers' chemicals. Born in Kalamazoo, John graduated from Kalamazoo College, had 5 years in the army and has been 14 years with Cyanamid, where his father, "REN" VERDON, is veteran Manager of the Cyanamid plant.

GEORGE E. BROMBACHER JR. (right) has been appointed Director of Purchasing for The Mead Corp., according to D. F. MORRIS, First Vice Pres. A 20 year veteran with Mead, Mr. Brombacher began as a timekeeper in the Chillicothe mill. After Navy So. Pacific war service, he was P. A. at the Kingsport Mill. Recently he has been responsible for woodpulp and heavy chemicals purchases and other major items.

DR. AUGUST S. ERSPAMER and *ALFRED M. HEALD* have become associated with Hollingsworth & Whitney Co. with headquarters at Winslow, Me., the former as assistant manager of the company's Northern mills, and the latter as director of research and development. Dr. Erspamer was formerly assistant to the resident manager of St. Helens Pulp & Paper Co., St. Helens, Ore., and Mr. Heald was with Scott Paper Co. and Marathon Corp.

JOHN H. DRAPER JR. has succeeded *COPELAND M. DRAPER* as president of Draper Brothers Co., Canton, Mass. The announcement coincides with the company's discontinuance of some consumer manufacture and greater concentration on industrial fabrics, including papermakers felts.

KARL F. LANDEGGER, Parsons & Whittemore president, has been elected a vice-chairman of Black-Clawson, and a member of its executive committee. His company represents B-C in export sales of paper and pulp machinery.

SAM POPOVICH, director of quality control at W. C. Hamilton, Miquon, Pa., has been promoted to technical director and his former post filled by *PHILIP CERASOLI*.

Continued on page 32

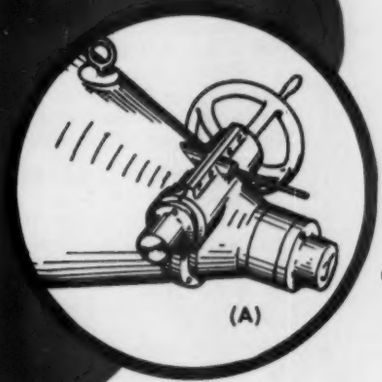
PUGET PULP—the *whitest, cleanest, bleached sulphite pulp* that we can make is produced *particularly for the market.* To assure converting mills of top quality, Puget management is always testing new processes, always alert to improved methods, always ready to install new designs in equipment. *Gear your operations to* ***PUGET PULP.***

PUGET SOUND

PULP AND TIMBER COMPANY

BELLINGHAM • WASHINGTON

for superior continuous beating

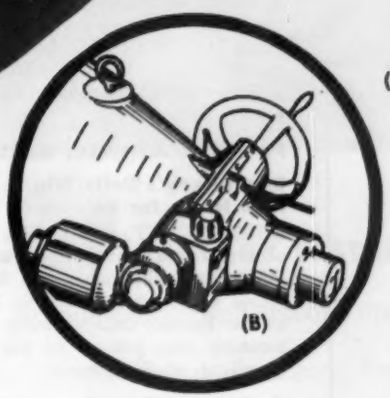


Here's a great new conical refiner — the JONES STOCKMASTER® with range, flexibility, control and *results* to meet your every need.

The wide selection of tackle available, plus precise control of rotor — combined with suitable stock flow, consistency and stock pressure — give the operator a truly flexible and controllable refining machine. The results produced are superior to other types of beating and refining equipment.*

Low in first cost, the STOCKMASTER is simple and economical to operate and maintain. And JONES engineering guarantees many years of trouble-free, dependable and efficient performance.

(A) Standard adjusting mechanism — 10" hand wheel with worm and worm gear reduction — permits very accurate adjustment of plug position and absorbed horsepower. It is a simple matter to add necessary gear motor and parts to change over to ACCRU-SET control at a later date.



(B) ACCRU-SET® Control — At modest extra cost, the basic mechanism shown above can be fitted with a gear motor for any desired type of control, from a simple push-button arrangement for remote control to full automatic control of applied power with indicating or recording, current-sensitive or watt-sensitive instruments.

And ask your Jones representative about application of ACCRU-SET to your present refiners.

Ask your Jones representative or write direct *today for our Bulletin 1047, giving specifications and full details.*

E. D. Jones

E. D. JONES & SONS COMPANY
PITTSFIELD, MASSACHUSETTS

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

FROM CANADA

D. P. BEST, manager of manufacturing, the KVP Co. at Espanols, Ont., was made a vice president of the company at the recent annual meeting.

D. W. GRAY, logging engineer for the KVP Co., has been appointed assistant woods manager.

R. L. WELDON, president of Bathurst Power & Paper Co., Montreal, has been making a survey of the newly established paper industry at Chittagong, Pakistan, for the World Bank, which assisted in financing the enterprise. Writing to friends, Mr Weldon told how 12,000 men and women carrying baskets were performing a construction job.

ANTHONY BENN, Deputy Chairman and Managing Director of Price & Pierce, London, is presented with West Coast totem pole at meeting of loggers in Vancouver, B.C., after conferring with officials of MacMillan & Bloedel Ltd., whose pulp is marketed by his British organization.

RECEIVES SOUVENIR OF WEST

G. A. SUTTON has been named manager of the Thunder Bay division, Abitibi Power & Paper Co., according to announcement by *R. J. ASKIN*, vice president. Formerly with St. Lawrence Corp., at Dolbeau, Que., Mr. Sutton joined Abitibi last July as assistant manager at Thunder Bay. *T. C. ANDERSON*, whom Mr. Sutton succeeds, has gone to Abitibi's Toronto office where he will manage the company's participation in the development of Tasman Pulp & Paper Co. in New Zealand.

DR. FERDINAND KRAFT, technical supervisor for Marathon Paper Mills of Canada at Marathon, Ont., has been made assistant to the president, *JOHN STEVENS JR.*, at Menasha, Wis.

ROYAL S. KELLOGG, now resident in Palmetto, Fla., was honored by the Canadian Pulp and Paper Association at its annual meeting in Montreal. The presentation was made by *ELLIOTT M. LITTLE*, president of Anglo-Canadian Pulp & Paper Mills, vice chairman of the association.

PACIFIC NORTHWEST MILLS

Bert Dickey's Daily Trip; New Home for Baldwins

BERT DICKEY, vice president and senior West Coast director of Scott Paper Co., still makes the 56 mile round trip from his home in Seattle to the Everett mill virtually every business day, just as he did when president of Soundview.

G. A. LaHUSEN, CZ personnel and safety supervisor, West Linn, Ore., was elected director of Oregon City Kiwanis Club.

JOHN A. GRILL, assistant district purchasing agent, CZ, Seattle, has been transferred to Port Angeles, Wash., mill as supervisor, mill purchases. *CARL E. JOHNSON*, formerly head assistant of order department, has been promoted to assistant supervisor, order and programming, Camas mill.

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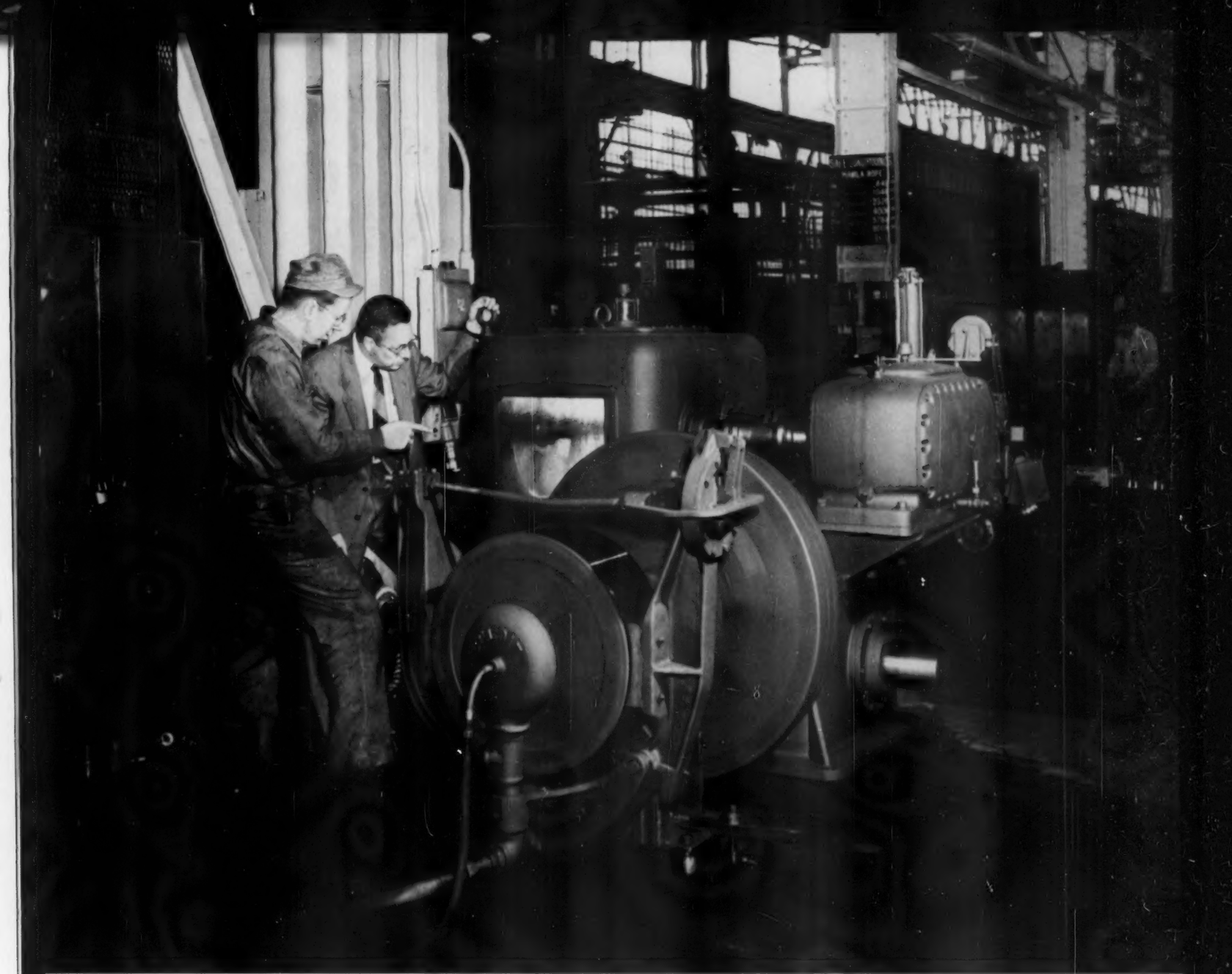
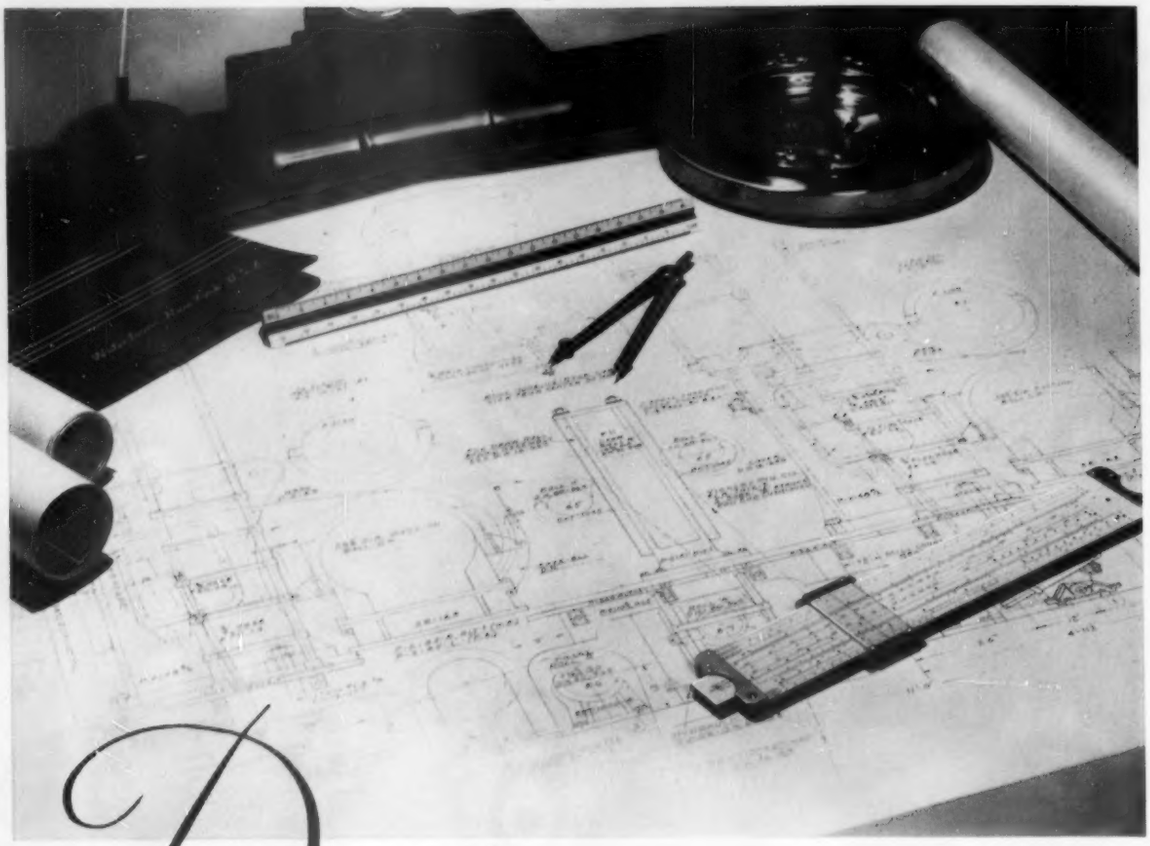


FACTORY TEST UNDER LOAD for each drive unit checks lubrication, driving power, and smooth operation. In the mills these units daily meet the test of trouble-free performance. On a variety of machines, the Beloit Differential Drive is providing extremely accurate draw control—raising sheet tests, reducing shrinkage in width, sharply cutting machine breaks.—*Beloit Iron Works, Beloit, Wis.*

BELOIT

WHEN YOU BUY BELOIT...YOU BUY MORE THAN A MACHINE!

PAPER MACHINERY



Design...

Designing the paper machine is important from every angle in that the economic life value of the mill is involved.

A paper machine of superior design can give reliable performance and flexibility for present requirements or conditions and yet provide for future requirements.

An early consultation with us can be to your advantage for your paper making machinery needs — for designs that are outstanding with features of performance that are years-ahead.

designers and builders of paper making machinery
Since 1853

BAGLEY & SEWALL
WATERTOWN • NEW YORK

Foreign Representative: **CASTLE AND OVERTON, INC., 630 Fifth Avenue, New York 20, New York**
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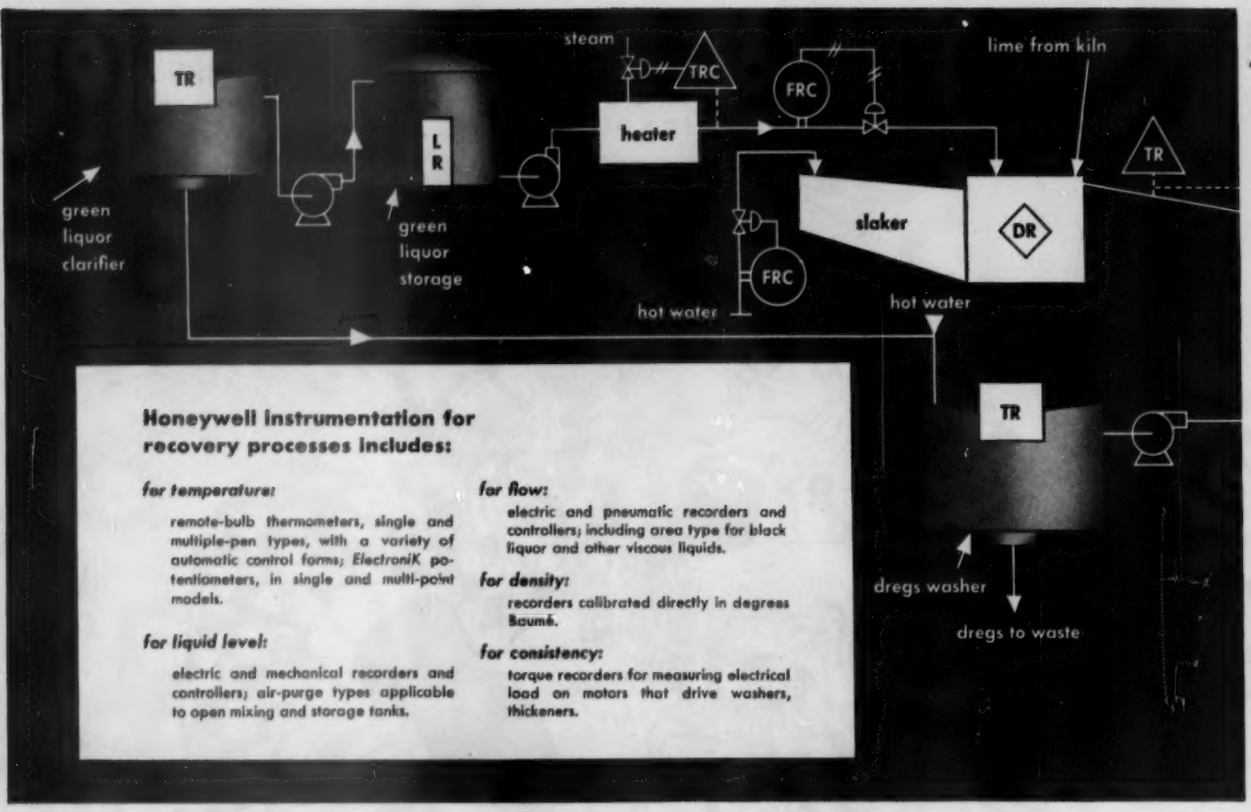


Honeywell instrumentation for recovery processes includes:

for temperature:

remote-bulb thermometers, single and multiple-pen types, with a variety of automatic control forms; *ElectroniK* potentiometers, in single and multi-point models.

for liquid level:

electric and mechanical recorders and controllers; air-purge types applicable to open mixing and storage tanks.

for flow:

electric and pneumatic recorders and controllers; including area type for black liquor and other viscous liquids.

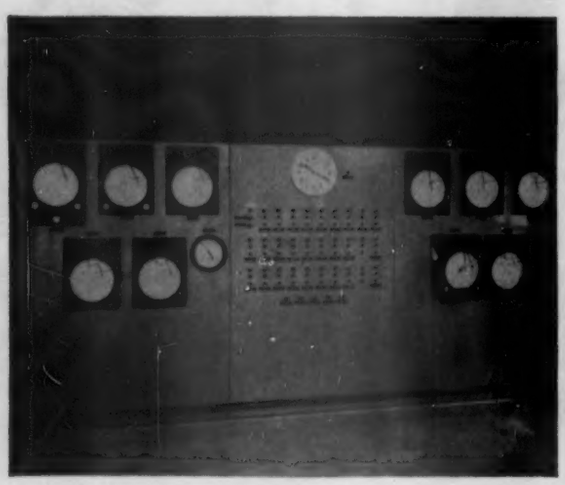
for density:

recorders calibrated directly in degrees Baumé.

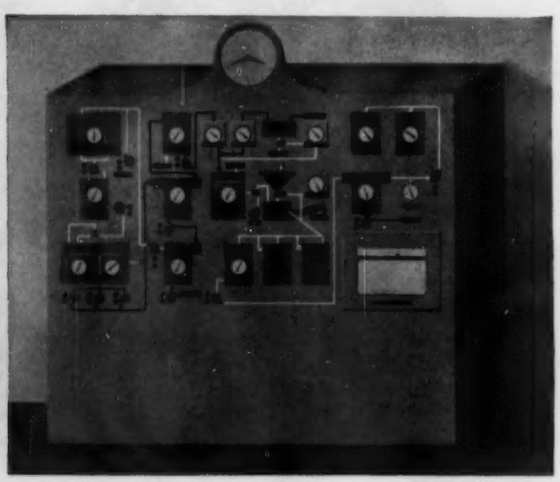
for consistency:

torque recorders for measuring electrical load on motors that drive washers, thickeners.

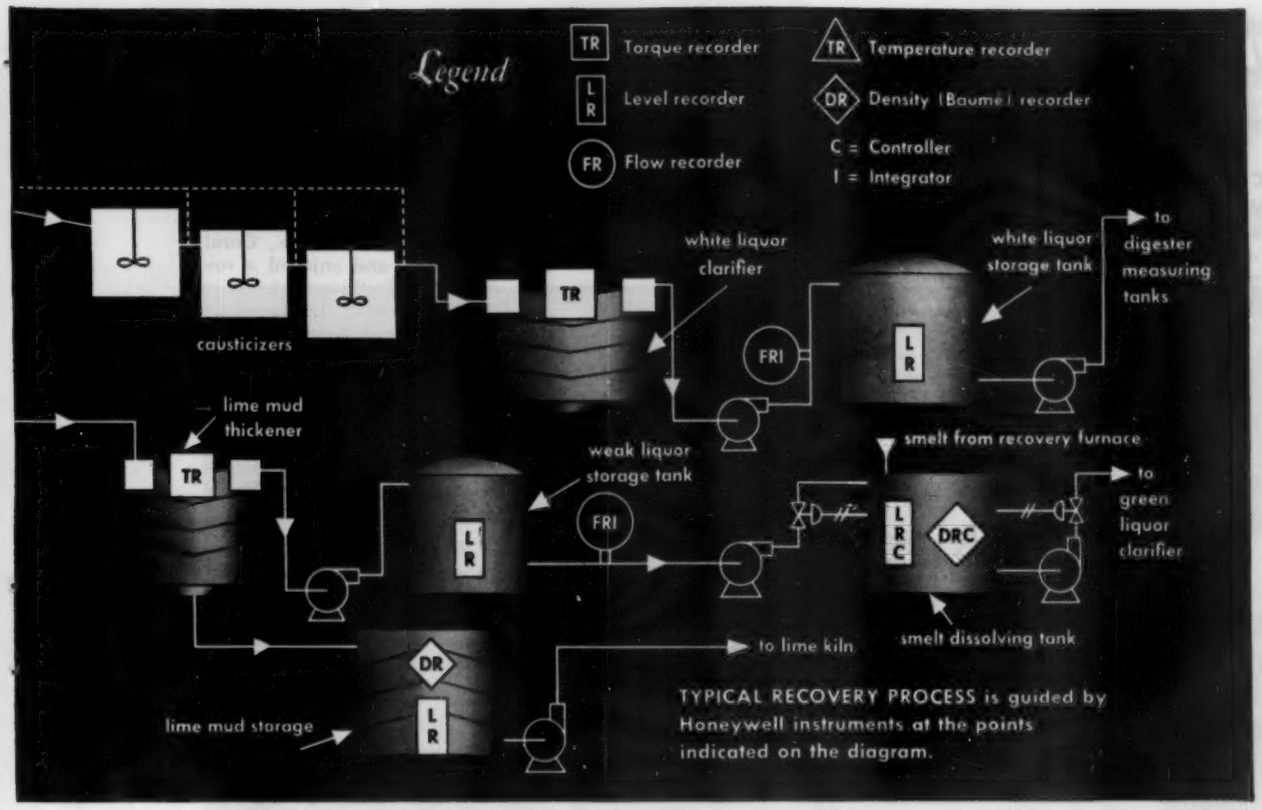
Greater chemical recovery *with complete*



Complete instrumentation for individual recovery processes is engineered by Honeywell into integrated control boards. These may be panels like this one . . .



. . . or graphic panels, like this proposed design which concentrates all control of the recovery operation into a compact, easily understood unit that one man can operate.



in recausticizing systems *instrumentation* . . . by Honeywell

THE recovery process, often the key operation in setting mill efficiency, can be kept functioning at peak economy and maximum safety through the use of Honeywell instrumentation. This complete line of instruments fills every vital assignment of measurement and control throughout the recovery process.

Endorsed by years of use in leading mills, Honeywell recovery instrumentation covers temperatures, liquid levels, flows, density, torque . . . all in a variety of measuring and controlling models and ranges. Specialists who have wide experience with paper industry applications design these basic elements into integrated systems that are custom-fitted to your specific recovery process.

To assure your mill of realizing the full, uninterrupted benefits of modern control, Honeywell's nation-wide service organization stands ready to give your instrumentation prompt, experienced attention any time you need it.

Your nearby Honeywell field engineer will welcome the opportunity to discuss instrumentation for recovery or any other paper mill process. Call him today . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.

● **REFERENCE DATA: Write for Bulletin 2802, "Instrumentation for the Paper Industry."**

MINNEAPOLIS **Honeywell**
BROWN INSTRUMENTS
First in Controls

PERSONALS — Continued

PACIFIC NORTHWEST NOTES

PAUL C. BALDWIN, vice president, *West Coast operations, Scott Paper* Co., is building a new home on salt water for his family—wife and three children—at Mukilteo, on Puget Sound south of the Everett mill.

BILL COSTER, general supt. of both pulp and paper operations for Scott at Everett, and Mrs. Coster have their home at Mukilteo, too.

CHARLES W. CRIST has moved to Everett, Wash., as community relations manager for Scott Paper Co. there. A 1933 grad of U. of Pennsylvania, he was publications manager for Scott at Chester, Pa.

O. T. DEFIEUX, until recently plant engineer of Crown's Camas Mill, has agreed to defer retirement until he completes a special assignment for headquarters industrial relations department.

HOWARD MORGAN, vice president of Weyerhaeuser Timber and manager of its pulp division, and his wife, Dora, were enjoying a well earned respite in the Indian country of Arizona as this issue went to press.

OTTO SCHOENWERK, builder of several Pacific Northwest mills, is living at 435 Palermo Ave., Coral Gables, Florida, and enjoyed a recent visit with Northwest friends.

AL GRAFF, recently promoted to technical director of Weyerhaeuser's sulfite mill in Everett, and *JACK REIGH*, originally a Seattleite and former DuPont scientist, and now assistant research director for the pulp division of Weyerhaeuser Timber Co., were the technical representatives of that company at Paper Week in New York.

JAMES BRINKLEY JR., formerly assistant engineer at the Everett Pulp & Paper division, has transferred to San Francisco to be assistant to sales manager in paper sales for Simpson Logging Co.

BILL BRINKLEY, his brother, has moved to Eugene, Ore., where he is selling plywood adhesive byproducts for Weyerhaeuser.

GRAY KING, research director; *AARON MARKHAM* and *DR. EDDY*, all of Puget Sound Pulp & Timber and Ketchikan Pulp Co. connections, had Paper Week reservations in New York from one of the farthest west points—Bellingham, Wash.

WILLIAM F. PETERS is new general manager of the Container Corp. of America carton plant in Portland, Ore. (California Container), but he headquarters in Seattle. He graduated from Stanford in 1947.

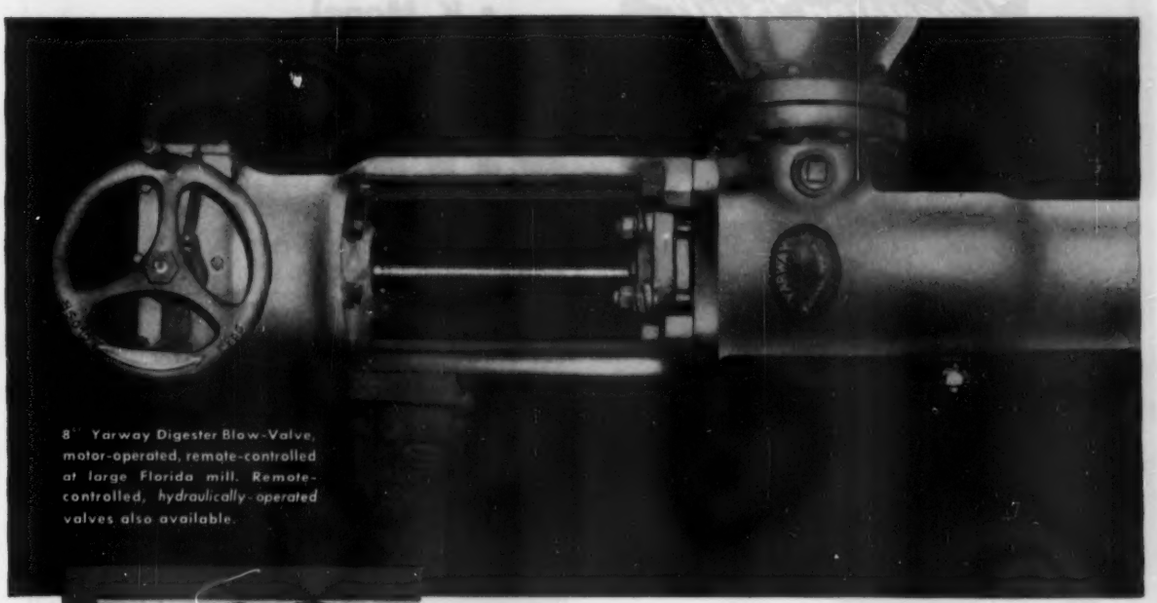
CURT L. KOERNER, 7804 SE 7th Ave., Portland, Ore., made a trip to New Brunswick mills before going to Paper Week in New York. He also went to Appleton to visit the plant of Appleton Machine Co., which he represents in the Far West, as well as Roots-Connersville and John Waldron Corp.

DAN McGILLICUDDY, JR., formerly in industrial relations for Rayonier in the Coast mills, working out of Hoquiam, has moved to New York City, where he will handle sales promotion, advertising and public relations for Rayonier. He is a native of Aberdeen, Wash., graduate of U. of Washington and was a naval officer in WW II. He and Mrs. McGillicuddy have two small sons and will live in Westchester County.

Continued on page 104

LONG LIVE YARWAY DIGESTER VALVES

. . . with new 17/4 PH Stainless Steel Plungers



8" Yarway Digester Blow-Valve, motor-operated, remote-controlled at large Florida mill. Remote-controlled, hydraulically-operated valves also available.

8" Yarway Seatless Digester Blow-Valve ready for assembly.

NEW YARWAY SEATLESS DIGESTER BLOW-VALVES are better than ever . . . because a new type plunger solves the problem of wear and corrosion always present in digester service.

This 17/4 PH Stainless Steel Plunger has corrosion-resistant properties approaching those of chrome-nickel steel. In addition it has a hardness of 400 Brinell. Hard monel split plunger head bushing also contributes to longer life.

Typical experience has been in a large Florida mill. After 23 months service an 8" Yarway Digester Valve was dismantled for inspection. The 17/4 PH plunger *was in perfect condition—not a scratch on it.* In all that time the packing had not been changed or repacked, and there was *no liquor leakage.* Outage time of digesters has been reduced to a minimum.

Want to know more about these Yarway Seatless Digester Valves? Write . . .

YARNALL-WARING COMPANY
103 Mermaid Avenue, Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

YARWAY®

digester blow-valves

MILLS ARE IMPROVING QUALITY BY SELECTIVE USE OF DEFOAMERS

Hercules' well-known Defoamer 4 brick, in use at the Combined Locks Paper Company in Wisconsin.

Many mills have learned that the use of the right type of defoamer has helped them improve quality. Maybe you, too, can benefit by the economical use of the right defoamer.

Hercules has both the technical know-how and the range of products to help you. Hercules defoamers are available in solid, liquid, or paste form, and are designed for practically all types of paper and board.

We welcome the opportunity to discuss the possible advantages to you of the selective use of defoamers.

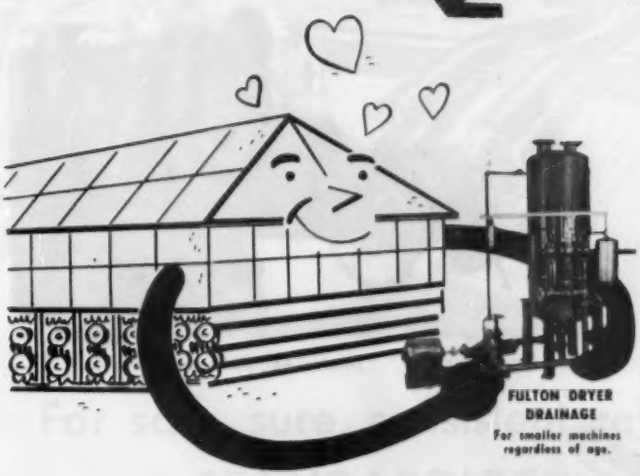
Paper Makers Chemical Department
HERCULES POWDER COMPANY
INCORPORATED
965 King Street, Wilmington 99, Del.

SERVING YOU BETTER · THRU BETTER SERVICE ·

SIZING MATERIALS AND CHEMICALS FOR PAPER

PP54-1

THE Rebirth OF OLD NO. 1



Old No. 1 is up in years, slow and sluggish. Quality is off. Tonnage is off. Profit margins are too close for comfort.

Machine too old? Not necessarily. Too small? Not necessarily. Chances are about 10 to 1 that the bulk of the trouble lurks in the dryer section.

Faulty drainage makes for slow drying and lower tonnages. Faulty drainage causes uneven drying, cockling, curling. And a low output of less marketable grades makes for higher costs, stiffer competition and less in the bank.

What to do? There is just one way out—just one. Snap up the machine production with a Fulton Dryer Drainage System.

Fulton Dryer Drainage removes condensate and air continuously, resulting in the highest possible dryer surface temperatures consistent with the steam pressures used.

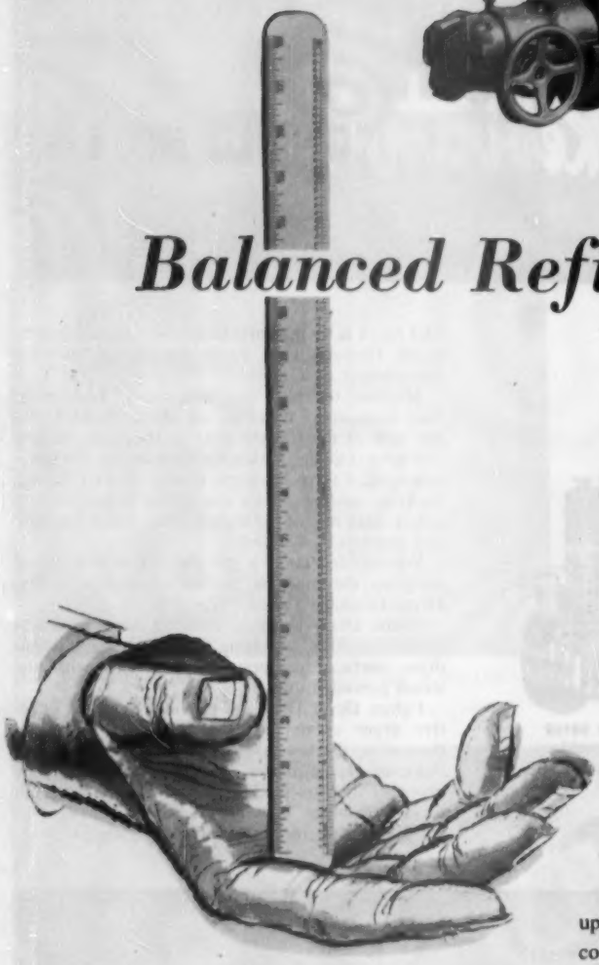
Fulton Dryer Drainage provides the most effective dryer curve from lead-on dryer clear on through to the last dry and dryer.

Faster drying. Better drying. Less steam. Better profits. Those are the benefits. Close to 900 Fulton Dryer Drainage systems in service. Cost? Not enough to stop the mill that investigates.

THE MIDWEST-FULTON MACHINE CO.

DAYTON, OHIO

Balanced Refining Pays off



Duotrol-equipped jordan

Mills running fine papers and liners for board can step up the quality through the use of Hydrafiners* and jordans in combination. We call it balanced refining.

Their Hydrafiners hydrate and fibrillate the fiber—cutting action negligible. Their jordans are used solely to shorten the fibers for the best possible control on the machine.

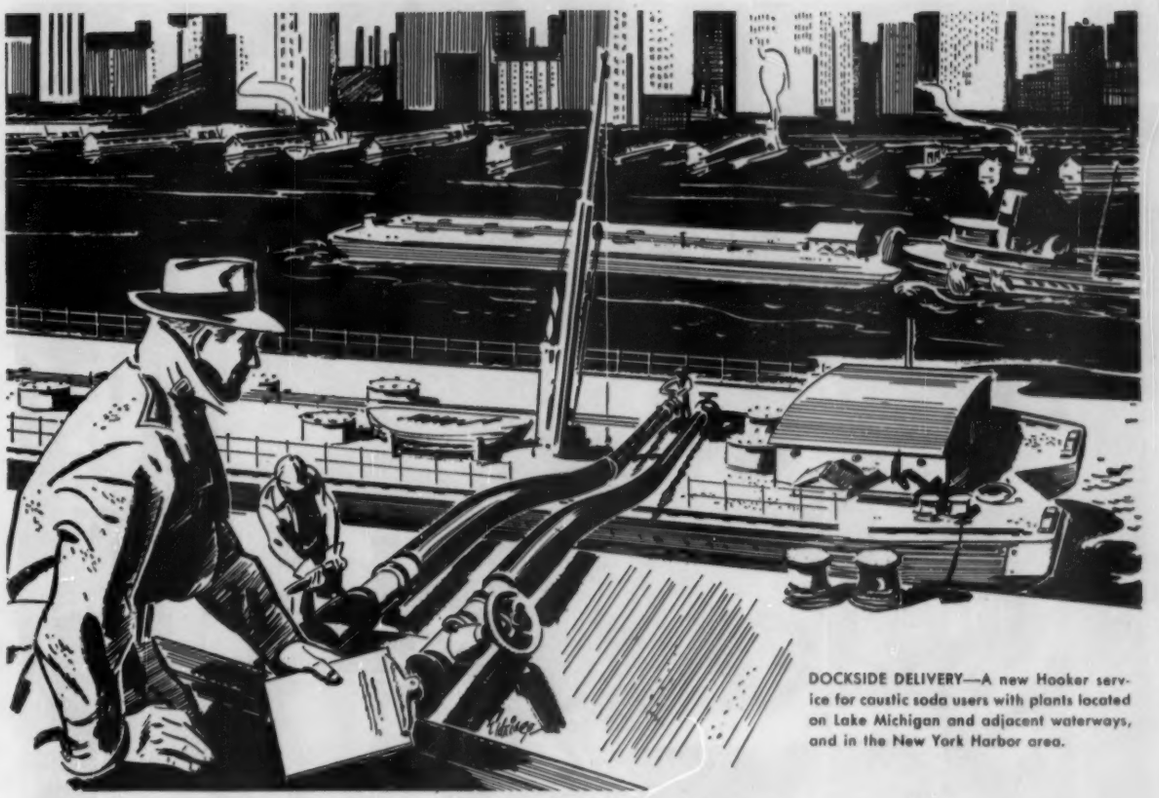
Equipped with Duotrol* plug adjusters to vary the plug settings as the consistency or volume in the line fluctuates, such mills obtain the exact stock treatment they seek—hence improved grades. Such exact treatment of the stock is obtainable in no other way.

Investigate the Hydrafiner. You can have balanced refining in your own particular system . . . Also consider the Duotrol plug adjuster . . . Balanced refining will pay off for you . . . Bulletin No. 17-SB.

*Trade-mark

BLACK - CLAWSON

SHARTLE BROS. MACHINE DIVISION • MIDDLETOWN, OHIO



DOCKSIDE DELIVERY—A new Hooker service for caustic soda users with plants located on Lake Michigan and adjacent waterways, and in the New York Harbor area.

For safe, sure, consistent results . . .

STANDARDIZE on Hooker Caustic Soda

Why this is important to you:
With *uniform* caustic soda coming in, shipment after shipment, you can standardize your caustic handling and processing.

You need not adjust your process to meet variations in incoming caustic shipments. You can be sure each new shipment matches your current inventory.

You get this kind of uniformity with Hooker Caustic Soda. Every step in the manufacture—from salt brine to tank car—is controlled at Hooker, by Hooker. More than 20 separate inspections and analyses safeguard the uniformity of the Hooker Caustic you buy.

This is one reason why leaders in 30 industries specify *Hooker* Caustic—and why many have specified it for nearly 50 years.

Hooker uniformity can pay off for you, too—in lower operating costs and smoother, better processing. Try it and see. A letter or phone call to the nearest Hooker office will bring you product data and contract information.

Buy the UNIFORMITY Hooker Caustic Soda gives you

Forms: Liquid 50% and 73% • Flake • Solid • Special fine flakes
Containers: Tank cars • Tank wagons • Barges • Drums

For fast service, phone:

CHICAGO	CEntral 6-1311
LOS ANGELES	NEvada 6-3826
NEW YORK	MUrray Hill 2-2500
NIAGARA FALLS	6655
TACOMA	BRoadway 1215

HOOKER CHEMICALS

From the Salt of the Earth

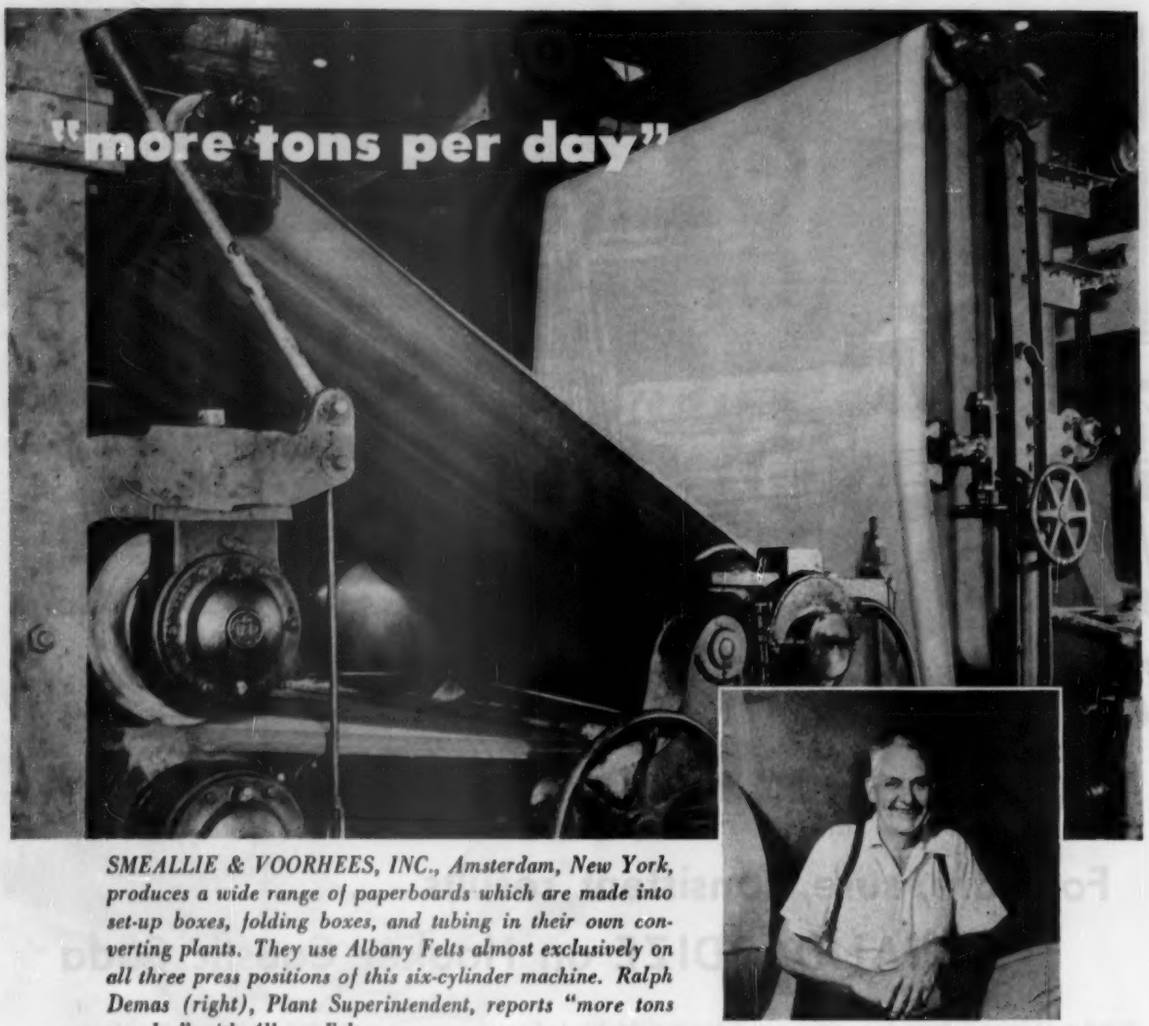
HOOKER ELECTROCHEMICAL COMPANY

5-1764

HOOKER ELECTROCHEMICAL COMPANY
2 Union Street, Niagara Falls, N. Y.

Please send ☐ data sheets on Hooker Caustic Soda; ☐ Bulletin 100 describing Hooker products and services.

Name..... Title.....
Company.....
Address.....
City..... Zone..... State.....



SMEALLIE & VOORHEES, INC., Amsterdam, New York, produces a wide range of paperboards which are made into set-up boxes, folding boxes, and tubing in their own converting plants. They use Albany Felts almost exclusively on all three press positions of this six-cylinder machine. Ralph Demas (right), Plant Superintendent, reports "more tons per day" with Albany Felts.

Albany Felt Company's technically trained sales engineers constantly strive to improve felt performance on your machines. Just as twenty-five years ago Albany engineers introduced the revolutionary concept of individually designed, custom-made felts for each felt position, today they are supplementing this valuable service with actual operational studies which we term "felt performance check." This extra service, by analyzing the basic principles of felt operation in relationship to over-all efficiency assures our customers MORE TONS PER DAY. Even more important, Albany sales engineers are backed up by the industry's leading service engineers and felt makers, a complete service laboratory, an extensive research and development program, and a product *famous* for quality.

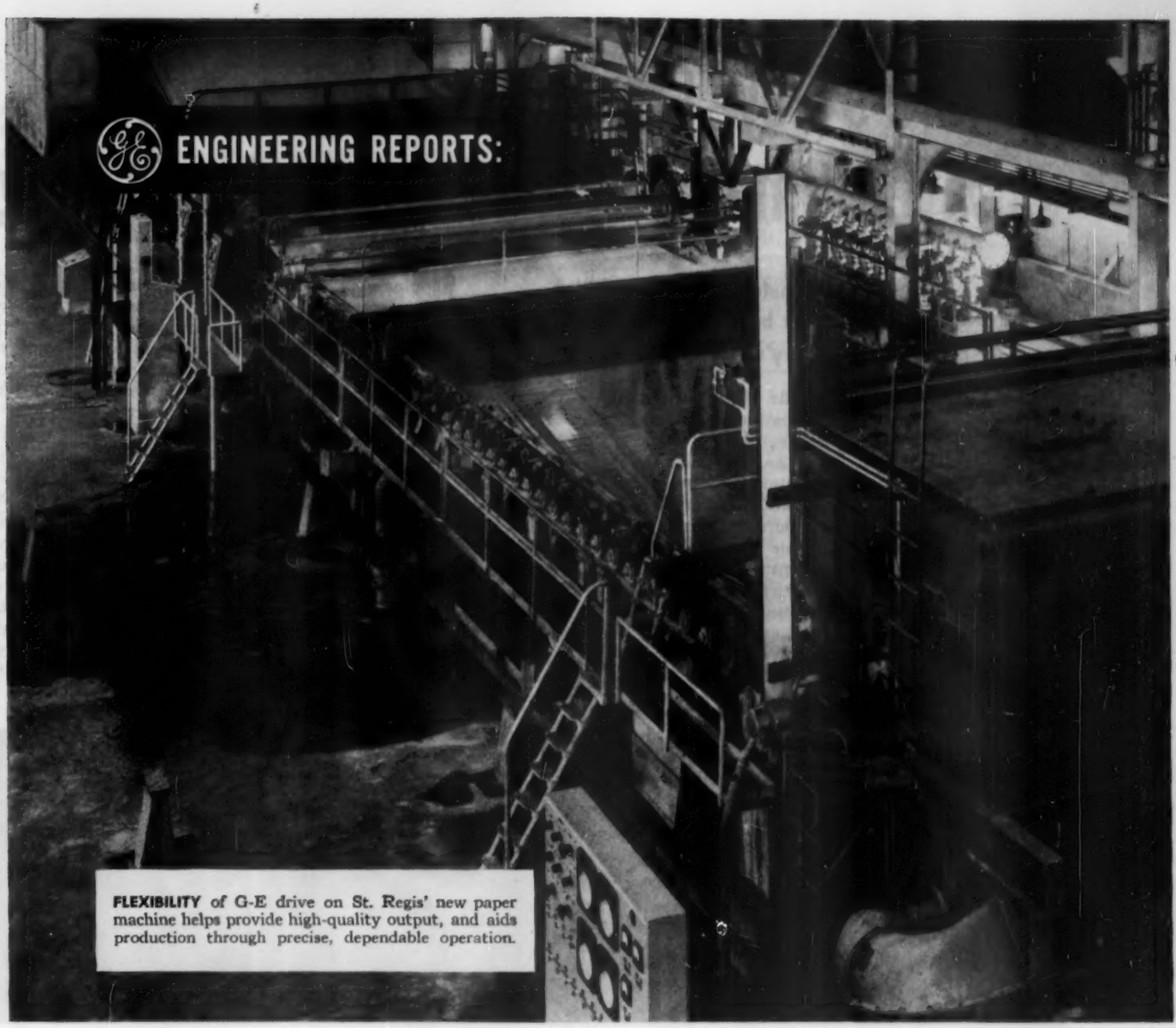
FREE! Felt Performance Record Book for Mill Superintendents, Managers, Purchasing Agents. Write for your handsome leather binder containing convenient forms for maintaining records and graphs of felt performance, felt inventory, etc.

ALBANY FELT COMPANY

"World's Largest Manufacturer of Paper Machine Felts"

MAIN OFFICE AND PLANT, ALBANY 1, NEW YORK

Other plants: Hoosick Falls, N. Y., North Monmouth, Maine, Cowansville, Quebec



FLEXIBILITY of G-E drive on St. Regis' new paper machine helps provide high-quality output, and aids production through precise, dependable operation.

St. Regis' new 230-in. Beloit, powered by G-E sectional drive, produces . . .

300 tons of paper per day

Since 1945, demand for kraft paper has skyrocketed. Bidding for a bigger share of the expanding market, the St. Regis Paper Co. is depending on this giant Beloit fourdrinier machine located at their new, full-integrated mill at Jacksonville, Fla. Already, it has produced over 100,000 tons of kraft.

In operation only a year, the new machine has shown its versatility by turning out everything from 24-pound paper to 24-point board, to a wide variety of specifications. Operating speeds have exceeded 1900 feet per minute.

Modern drive system—Paper machine flexibility makes top-speed output like this possible at the Jacksonville plant. It is also the reason why paper and board uniformity and quality can be kept high, even with broad product diversification.

To provide the machine flexibility they needed, St. Regis had a modern General Electric multiple-generator sectional drive installed on their fourdrinier machine. With this electronically controlled system, machine operators can hold paper speeds and tensions precisely over a wide range of settings—and turn out a high rate of top-quality production, with minimum downtime.

Electrically co-ordinated—This machine is part of a completely integrated mill. The electrical system was engineered as a unit, from wood-yard to finishing room by a team of G-E specialists working with the customers' staff and consulting engineers.

The next two pages show you a picture-story of what they did.

How G-E engineering teamwork helped plan a better mill

GENERAL ELECTRIC

Here's how G-E engineering services saved time, work and money for St. Regis

Co-ordinated manufacture and installation of G-E equipment helped St. Regis build one of the country's most modern mills.

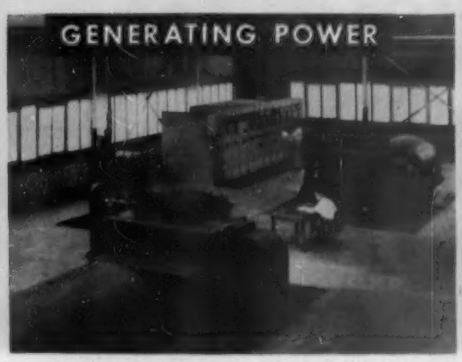
Co-ordination made a success out of the electrical system at St. Regis' new kraft mill at Jacksonville. It simplified the earliest conferences, smoothed out equipment planning and installation, helped meet start-up dates. Through co-ordination, a team of General Electric engineering specialists were able to help St. Regis and the consulting engineers design the entire mill's electrical system as a unit. It was a big job—but it saved time, money, and engineering man-hours for St. Regis.

G-E Power Engineer

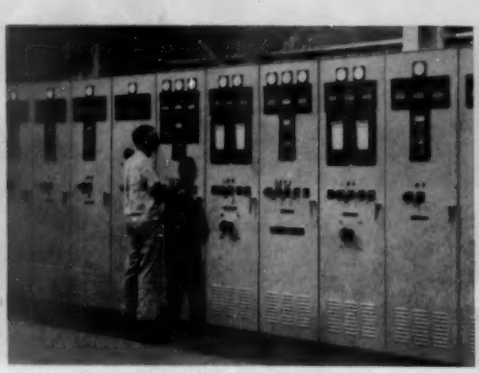
Engineering help started early—Sales and application engineers on the G-E team were asked, in the planning stage, to make recommendations for the entire system. They conferred with St. Regis plant engineers, and later, worked closely with their consultants, Alvin H. Johnson & Co. Engineers, and with representatives from prime contractor.

G-E "team" follows through—The rest of the G-E engineering team was called into action. The project co-ordinator at Schenectady, N. Y., responsible for engineering, production, and shipment co-ordination, scheduled the construction and shipping dates of all apparatus. G-E product specialists helped work out the detailed designs needed for special equipment. Because of this, St.

G-E Application Engineer

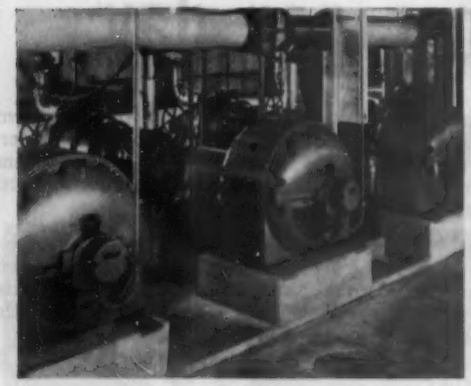


1 **POWER** for entire mill is generated by two 6000-kw G-E turbine-generators from available process steam.

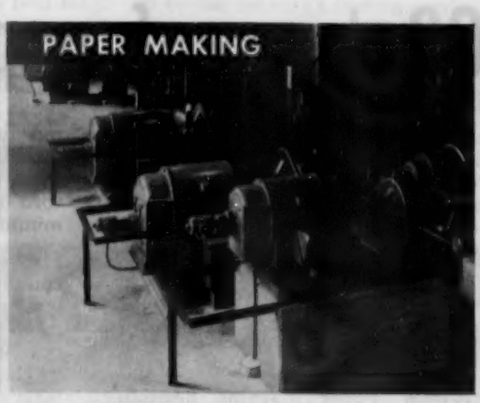


2 **FACTORY ASSEMBLY** of this turbine room 4160-V G-E switchgear helped cut installation costs.

3 **RUGGED** G-E motors drive two 45-ft. barking drums helping to keep raw material movement high.



7 **HIGH EFFICIENCY** at low cost is provided by G-E 400-hp synchronous motors powering Jordans.



8 **FLEXIBLE** sectional drive for paper machine is all G-E powered, helps assure greater production continuity.

9 **CONVENIENT, COMPACT** G-E control for wet end of 230-in. paper machine is located in one room.

Regis engineers and the consultants were relieved of a great deal of time-consuming correspondence and details, allowing them more time for the larger aspects of the project. Orders went out from Schenectady to key G-E plants throughout the country—to Fort Wayne, Indiana; to Pittsfield and West Lynn in Massachusetts; to Philadelphia and San Jose, Calif.

Co-ordination was just as vital during equipment construction as it was during first planning. It paid off the same way. For instance, the construction of operator's control panels for the paper machine was carried out in Wisconsin near the machine builder to assure integrated control of the machine.

Start-up aided by co-ordinated service—Deliveries to Jacksonville were rigidly scheduled. Equipment arrived on site at St. Regis when needed for actual construction. Progress reports, issued at frequent intervals by the G-E team, kept St. Regis' receiving, operating, accounting and expediting personnel up to date.

G-E Sales Engineer

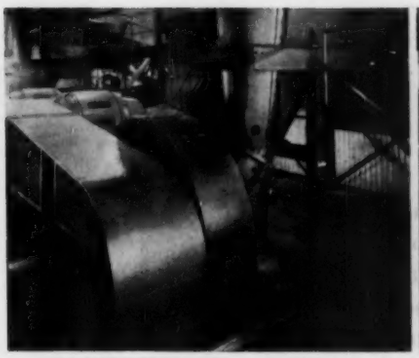
On hand during equipment installation, G-E field engineers were able to simplify the job of getting the new mill into production. They passed operating and maintenance information on to plant personnel. And at start-up time, their services helped St. Regis go into full-scale operation. The new Jacksonville mill made its first sheet of paper December 31, 1952. The dependable G-E electrical system, controlling 25,985 horsepower, has been giving St. Regis top performance ever since. 055-15

YOU CAN GET THE SAME HELP

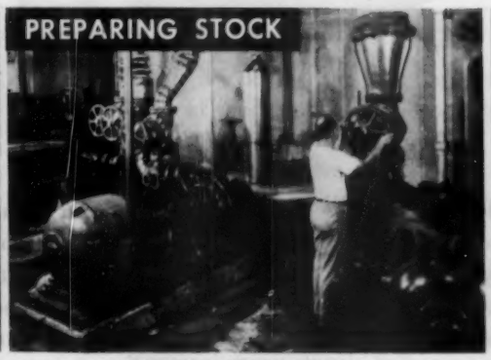
Your job of getting a new or a modernized mill completed on time can be simplified. Call in your local G-E Sales Representatives early in your plans. Let him give you the complete story on the way a G-E Apparatus Sales Division team can work with your plant and consulting engineers to expedite your new project. General Electric Company, Schenectady 5, N.Y.

Engineered Electrical Systems for Paper Mills

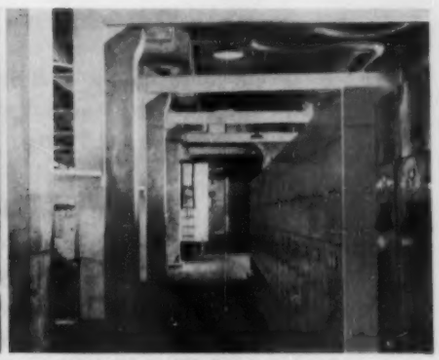
GENERAL ELECTRIC



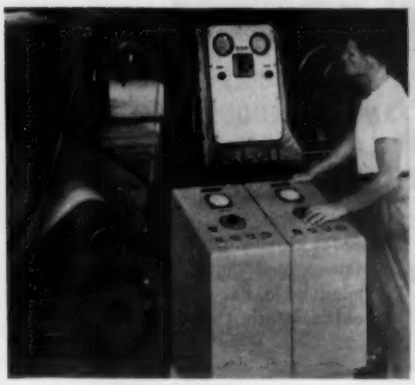
4 **RELIABLE** G-E motors driving 88-in. 10-knife chippers help reduce logs to 5/8 in. chips quickly.



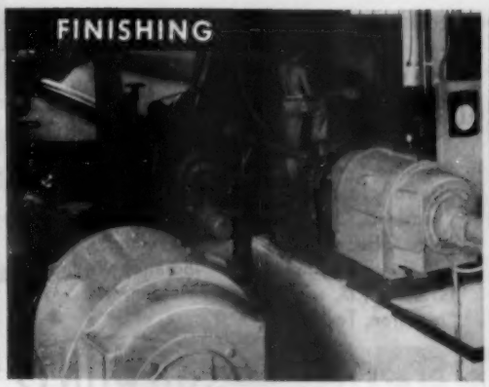
5 **CONSTANT STOCK FLOW** is responsibility of G-E pump motors located below paper machine room.



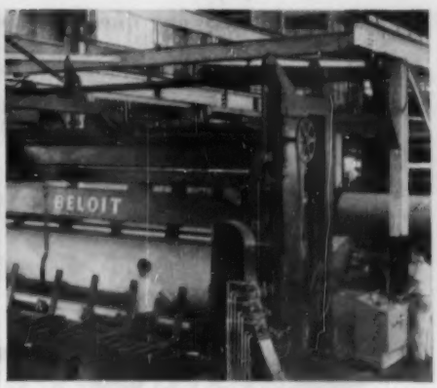
6 **FOR MORE ROOM** in work area, G-E limitamp control is located out of the way on this balcony.



10 **PRECISE CONTROL** from G-E operator's console means increased output of quality kraft at St. Regis mill.



11 **EASY THREADING,** higher winding speeds are possible with G-E motors and amplidyne control.



12 **FAST ACCELERATION,** deceleration provided by G-E motor helps increase slitter and rewinder output.

It takes TI-PURE®

TITANIUM DIOXIDE

to make paper opaque and bright

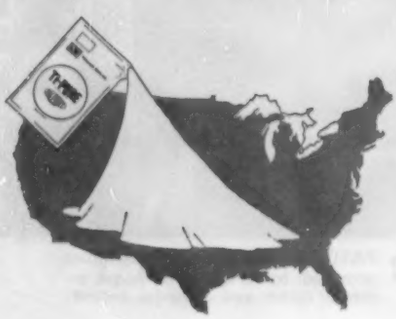
...and Du Pont makes it!

® Reg. trade-mark for Du Pont titanium dioxide pigments

YOU GET a titanium dioxide pigment which is specifically adaptable to paper manufacture. It disperses easily in water, has fine beater retention, low-water and adhesive demand—all of the important features needed for easy and sure use in paper furnishes and paper coatings. It's the best TiO_2 for paper we have ever made!

If you have any questions about the use of titanium dioxide in bread wraps, waxed board, glassine, bond or book—in fact for any paper application, just call us. Our Technical Service or Paper Laboratory may already have the answer; if not they'll be glad to work with you to find it. Just contact our nearest district office or write to: E. I. du Pont de Nemours & Co. (Inc.), Pigments Department, Wilmington 98, Delaware.

PROMPT NATIONWIDE SERVICE THROUGH THESE DU PONT DISTRICT OFFICES* AND WAREHOUSES



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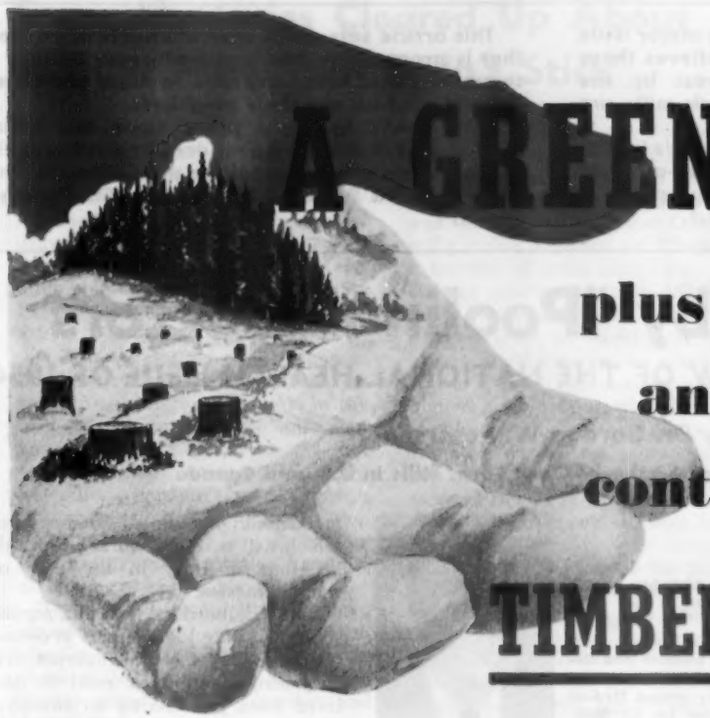
*Malden, Mass.
*Pasadena, Calif.
*San Francisco, Calif.
Dallas, Texas
Kansas City, Mo.
Minneapolis, Minn.
*Philadelphia, Pa.
Seattle, Wash.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING ... *THROUGH CHEMISTRY*



A GREEN THUMB

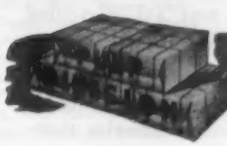
plus fire, insect and disease control assures

TIMBER as a CROP!

In the Weyerhaeuser long range timber growth plan, blocks of "parent seed trees" provide seeds for new growth trees which will supply a steadily increasing part of the harvest. As these second growth trees replace virgin timber, the science of tree growing will have to solve many new problems of forest management.

Looking to the future, Weyerhaeuser Timber requirements will be obtained from trees between 80 and 160 years old. To successfully accomplish this transition, Weyerhaeuser Forestry Research is constantly gathering more specific knowledge of tree growing habits and their relationship to fire, insects, disease and logging practices.

The soundness of the Weyerhaeuser sustained yield programs depends on the ability of its foresters to predict with reasonable accuracy the yield of these young forests. Based on these future growth figures, the productive capacity of the Pulp Division can be planned years ahead. As the quantity of the crops from these young forests increases, so will the quantity of Weyerhaeuser Sulphite and Sulphate pulps.



WEYERHAEUSER

With public and industrial health a major issue in the nation today, PULP & PAPER believes these views expressed in a recent address by the Medical Director of all Kimberly-Clark mills are timely.

In that portion of President Eisenhower's health program which emphasized the value of local area handling of the problem, this proposal is definitely along a parallel line at least.

This article sets down basic elements of an idea that is proposed to any group of paper mills in a community and area, and also to them and other industries which are their neighbors.

With public health a prime issue this year, PULP & PAPER invites its readers to send in their comments on this proposal for publication to The Editor, PULP & PAPER, 1791 Howard St., Chicago 26, Ill.

Mills Gain by "Pooling" Doctors

A TIMELY IDEA—IN VIEW OF THE NATIONAL HEALTH ISSUE OF 1954

By Dr. Gordon W. Peterson

Medical Director for all Kimberly-Clark Corp. Mills in U.S. and Canada

(The following article is an abbreviated version of an address made recently before the Safety Council of the Twin Cities of Neenah and Menasha, Wis., where several paper industries and other manufacturing enterprises are located).

DR. GORDON W. PETERSON, who was Supt. of Kimberly-Clark's Sanitary Products Research and Development, now is its newly created Medical Director for all Mills. He graduated from U. of Wisconsin '32.

COOPERATIVE USE of medical men by several industries in a community or a locale or region would raise the standards of preventive industrial medicine in the plants of that area.

The speed up of production caused by engineering progress, and the high tempo of life led by most people today, makes "manpower maintenance" as important as machine maintenance.

Manpower failure is just as expensive to industry as machine failure. And it is expensive to the community, too.

A group of paper mills or any group of industries might take the cue from other communities where this is already being done by engaging a doctor, or doctors, on a cooperative basis to provide medical assistance to the smaller plants, allowing each plant the advantages of the medical service at a fraction of the cost of individual programs.

This plan could also be extended to nurses, where a nurse's time is scheduled so that she spends a given number of hours in each plant each day.

Industry needs more medical help. Engineers have almost reached what seems to be the ultimate in the handling of three of the four "M's": machinery, methods, and materials.

It is time the doctors take over from the engineers and start giving the fourth industrial "M", men, some close attention. Although this remark might be controversial after seeing the rush in big cities, tensions in a smaller area can be greater than in a large city. This is because in a smaller community things come more quickly and the same individuals participate in many activities.

These activities include bowling, concerts, PTA, Scout activities, Church activities, and many others. Soon a man is rushing to work and rushing home, rushing to a meeting and rushing home to get some sleep.

This fast pace builds tensions that often contribute to industrial accidents and it has been rightly called "the pace that kills." All industry should institute pre-employment physical examinations and try to include in the examination some search into the emotional make-up of the prospective employe.

Chest X-rays should be included in the examination. The importance of everyone taking advantage of Anti-Tuberculosis Association mobile chest X-ray units when they visit a community cannot be emphasized too greatly.

All industry should have competently trained first aid personnel with proper equipment. However, first aid should not go beyond its scope, and it should leave follow-up examinations and repeat dressings to private practitioners. Likewise, therapy should be limited to measures which will permit a worker to finish his tour of duty in the case of minor illnesses.

Industrial medical men and nurses should step up their efforts in counselling service for the employes. It's surprising how much good is derived from just having an employe sit down and get a load off his mind.

Home troubles and financial worries influence the man and his job. A man cannot leave his domestic troubles at home any more than he can leave his industrial worries at the mill.

Another function of industrial medicine is health education. This is of great importance and every means should be used to bring the health picture to workers through meetings, small discussion groups, films and pamphlets.

Sanitation is another medical function that has been very well supervised by safety men in industry, for they realize the importance of a clean work area and healthy facilities in the cafeterias, locker rooms and wash rooms.

Crown Z Has Site For New Kraft Paper Mill

Crown Zellerbach Corp. has acquired a 42-acre site for a new kraft paper mill to be erected some time in the future, at East Antioch, Calif. Paper would be made from kraft pulp available from various sources, including a possible kraft mill at Duncan Bay, Vancouver Island, B. C., where there is now a C-Z owned newsprint mill.

The East Antioch land is traversed by the Santa Fe railroad and fronts on San Joaquin River, with sufficient depth to dock ocean vessels.

Some Mysteries Cleared Up About A Pulp Price That Didn't Stick

THE MARKET witnessed the unprecedented spectacle recently of a group of Eastern Canadian mills announcing a $5 price increase for unbleached sulfite pulp and then withdrawing it before it became effective. What were the reasons for the attempted advance and the scramble back to the original figure of $120 a ton?

A PULP & PAPER editor went to Montreal to find out. He got answers from three different elements in the deal—a spokesman for the mills that announced the $5 boost for the first quarter of 1954; a representative of the mills who didn't go along with this move, and, finally, from a top executive of a world-wide selling organization that has been handling all grades of pulp for many years.

There's really very little mystery about the thing; it couldn't be much simpler. Boiled down, it was this: Some mills thought they could get a higher price for their product and found they couldn't.

"We should have got it, though," said the general manager of one of the companies directly concerned—a major producer of newsprint, sulfate, board and other pulps and paper. "Costs have been climbing right along—from the woods and right down to the machine and transportation. We felt that an increase in price was justified, and we went out to get it. There were two or three others who had the same feeling and we thought most of the others would follow along. We believed the price structure was out of line; that unbleached sulfite was being overlooked by the market and that consumers would be glad to pay the increase; perhaps 'glad' isn't the right word. 'Willing' might be a better one.

"Well, it was pretty disillusioning. We found that our customers weren't willing at all. In fact, they were extremely unwilling and told us so. What really disappointed us was the fact that the other Canadian mills didn't support us. Obviously, a handful of mills couldn't hope to enforce a price increase. When we found we couldn't make the price increase stick, we backed out. There wasn't anything else we could do."

One Quebec representative of the higher price faction placed most of the responsibility on competition from the West Coast, where some of the mills depend on logging and sawmill rejects for most of their raw material and hence are able to operate economically. With companies that wanted to increase the price of unbleached sulfite from $120 to $125 a ton, the pulp was just a sideline, but they were naturally eager to make it a profitable sideline. However, they say that it's very hard to compete with the big-tonnage mills that produce market pulp exclusively.

The West Coast has its argument, too, of course. Operators there point out that while it may be true that some of the newer sulfate mills on Vancouver Island use a large proportion of "waste" material as the source of their chips, labor and several other costs are considerably higher there than in Quebec.

There Were Conflicting Views

The mere fact that the price increase didn't stick is proof of the lack of unanimity on the subject among producers.

According to the vice president of another big company with head offices in Montreal, there is ample ground for the disagreement.

"The reception to the price increase announcement was a completely adequate explanation of the whole business," this executive stated. "The market simply wouldn't stand for it and, personally, I think the price move was poorly timed. It's my opinion that the present margin between bleached and unbleached sulfite is reasonable—$20. I think that such a differential just about represents the cost of bleaching unbleached sulfite pulp, and if it is any greater the customers might as well buy bleached grades in the first place and let unbleached go begging."

The manager of the big marketing house said he didn't like the idea of a price boost at this time because what the industry needed was stability and widespread recognition of the fact that Canadian pulp was not going to be subject to frequent price fluctuations.

"There's another point, too—the fact that Swedish pulp had just been brought up to the level of Canadian unbleached sulfite," he said. "A price boost for Canadian pulp right now would have been psychologically bad."

This authority was also of the opinion that so long as big-tonnage producers of market pulp in British Columbia and the Pacific Northwest states as well as elsewhere continue to maintain volume and improve quality it will be increasingly difficult for the mills producing unbleached sulfite to set an arbitrarily higher price and expect to get it. Unbleached sulfite, for all its many admirable characteristics, seems destined to continue for a while as the industry's "weak sister" marketwise.

Canada produced 1,551,097 tons of unbleached sulfite in 1953, compared with 1,593,792 in 1952. Bleached sulfite paper grades advanced from 395,227 to 418,252 tons, bleached sulfate from 532,144 to 601,109 tons and unbleached sulfate from 547,690 to 593,012 tons.

HEAD TABLE GUESTS, TECHNICAL SECTION, CANADIAN PULP AND PAPER ASSN.

(L to r) R. de MONTIGNY, Tech. Dir., E. B. Eddy Co.; R. G. MACDONALD, Secy-Treas. Tappi (U.S.); J. R. W. GRIEVE, Supt., Brown Corp., LaTuque, Que.; GEORGE H. PRINGLE, Pres., Tappi, and V.P., The Mead Corp.; W. GALLEY, Dir. Research, E. B. Eddy; HAROLD CRABTREE, Pres., Canada Paper Co., Ltd.; W. S. CRAMP, new Vice Chm. Can. Tech. Section and Res. Mgr., St. Lawrence Corp, Dolbeau, Que.; PERCY M. FOX, Chm. Exec. Bd., Canadian P & P Assn. and Pres., St. Lawrence Corp.; R. L. FRASER, retiring Chm. Tech. Section and Mill Mgr., Manitoba Paper Co., Pine Falls, Man.; JOHN S. BATES, 1st Chm. of Section, Consulting Engr., Montreal; R. M. FOWLER, Pres., Canadian P & P Assn.; J. B. JONES, new Chm. Tech. Section and Mgr. of Mfg., Ontario Paper Co.; ARTHUR L. DAWE, Vice Pres., Consolidated Paper Sales; W. E. SOLES, Gen. Mgr., Anglo-Canadian Pulp & Paper Mills; F. L. MITCHELL, Gen. Mgr., Canadian P & P Assn.; L. R. THIESMEYER, Pres. P & P Research Inst. of Can.; E. L. GOODALL, Pres., Dryden Paper Co.; DOUGLAS JONES, Exec. Secy., Can. Tech Section.

AT HIS "WARM-UP" FOR BIG PAPER WEEK SPEECH

GEORGE OLMSTED JR. (right), President of S. D. Warren Co., who peered into future of Paper Industry to Anno 1975, when U.S. will have 210 million people, in an address he prepared for the big Tappi luncheon in New York, presented on this page. He gave the same address before a Michigan industry meeting. Here is LEONARD A. PIERCE (left), recently appointed Manager of the St. Regis mill in Kalamazoo, just before he introduced Mr. OLMSTED to his Michigan audience. Mr. Pierce, born in Houlton, Maine, graduated from Bowdoin College and has been with St. Regis since he joined that company at Bucksport, Me., in 1940 and was manager of the St. Regis mill at Howland, Me. Mr. Olmsted, born in Indiana and former Chicagoan, moved east to Boston and heads up Maine operations of Warren. Now he also heads up their Muskegon, Mich., mill, too, as company President.

Industry's Future Depends on 3 "Musts"

—OLMSTED ADDRESS HIGHLIGHTS NEW YORK TAPPI LUNCHEON

THE FUTURE SUCCESS of the pulp and paper industry in the U. S. depends upon:

1. Aggressive merchandising through salesmanship, advertising and promotion.
2. Low cost production attained through labor saving measures and better technical leadership.
3. Development of more new pulp and paper products and their substitution for metals and other materials.

That was the challenge which George Olmsted, Jr., president of the 100-year-old S. D. Warren Co., prepared for presentation before the annual Tappi luncheon in the Hotel Commodore in New York City on Feb. 18.

He entitled his talk "The Task Ahead."

It was the same address he made just one month earlier at the joint Superintendents-Tappi dinner in Kalamazoo, where he was welcomed by an audience of about 400, as the spokesman for the newly acquired S. D. Warren Division at Muskegon, Mich. Present were 19 men from the Muskegon mill, formerly Central Paper Co., including the new mill manager, Frank Roberts, from S. D. Warren's Maine mill.

If the Tappi audience in New York or the Michigan audience expected Mr. Olmsted would reveal much of his company's plans in their new Middle Western mill, they got mostly an indirect answer. But many who heard him interpreted his remarks as—in effect—indicating what S. D. Warren was going to do about the future—both in Maine and Michigan.

Mr. Olmsted declared competition with Russia has taught America the need for getting the right kind of technical men. "Low caliber technical men make a low caliber mill," he said.

He specifically issued this challenge—and the extensive hardwood supply available in Michigan and also New England were brought to mind, and also their de-inked stocks:

"We need an additive that will give us synthetic strength so we can use more short fibers from hardwoods or reclaimed paper stock. A high cost element in our production is the long fibers."

Regarding new products and substitutions, Mr. Olmsted contended that modern research methods, such as have been in practice in the paper industry, must run a course of years of development before best results

OLMSTED ADDRESS FROM FRONT ROW

AT KALAMAZOO MEETING (l to r): WILLIAM KIRKPATRICK, Vice Pres. and Technical Director of Allied Paper Mills; GLEN ALLEN, Mayor of Kalamazoo, who is an attorney in that paper town and graduate of Kalamazoo College; and RICHARD H. PEETERS, Supt. of Finishing, St. Regis' Paper Co., Kalamazoo.

DOWN THE LINE AT A HEAD TABLE

AT KALAMAZOO MEETING (l to r): HARRY E. WESTON, Secy-Treas. of Supts. Assn.; FRANK ROBERTS, new Mgr. for Warren's Muskegon Mill; OLIN CALLIGHAN, Edgar Bros., Natl Vice Chairman of Supts. Affiliates; MARSHALL RUTZ, KVP Co., Secy-Treas., Mich. Supts.; CLAUDE BOS, St. Regis Supt. of Coating, 2nd Vice Ch., Mich. Supts.; HARRISON KINDIG, Personnel Mgr., Otsego Paper Co., 1st Vice Ch., Mich. Supts., and LEON MIMMS, Coating Supt., Kalamazoo Paper, Chairman of Mich. Supts.

Research Should "Ripen" in 1955

"We are just starting in the fascinating game of substitution," he said. "Some time after 1955 it should ripen when our research reaches its maturity."

He said "we must look more and more on our industry as a chemical operation."

Financial men—bankers, brokers

—are "looking favorably on pulp and paper industries today, and now we find our industry in their portfolios, because this is no longer a feast and famine industry as it was long ago," said Mr. Olmsted. "Our job is to be sure the favorable trends continue, and we must induce the American public to buy more of our products," he added.

Mr. Olmsted recalled how he had joined S. D. Warren Co. in 1924 and presented statistics revealing a phenomenal growth and strength in his 30 years in the industry.

Increases in Period 1924-1953

(*In the United States*)	
Population Growth	44%
Consumption of Paper and Board	240%
Overall Profits of Paper and Board Industry	325%

He explained that the high increase in profits was due to "volume of production, sound statesmanship," and "fair pricing and fair return for investment." It provided needed profits for growth and "research insurance," he said.

Population gain in 50 years—by 1975—is predicted to be 88%—"the greatest in history," he said. U.S. population was 112,000,000 in 1924, 161,000,000 in 1953 and will be 210,000,000 in 1975.

Paper and paperboard consumption, he said, went up from 9 million tons in 1924 to 31 million tons in 1953, per capita consumption rising from 164 to 390 lbs. per person.

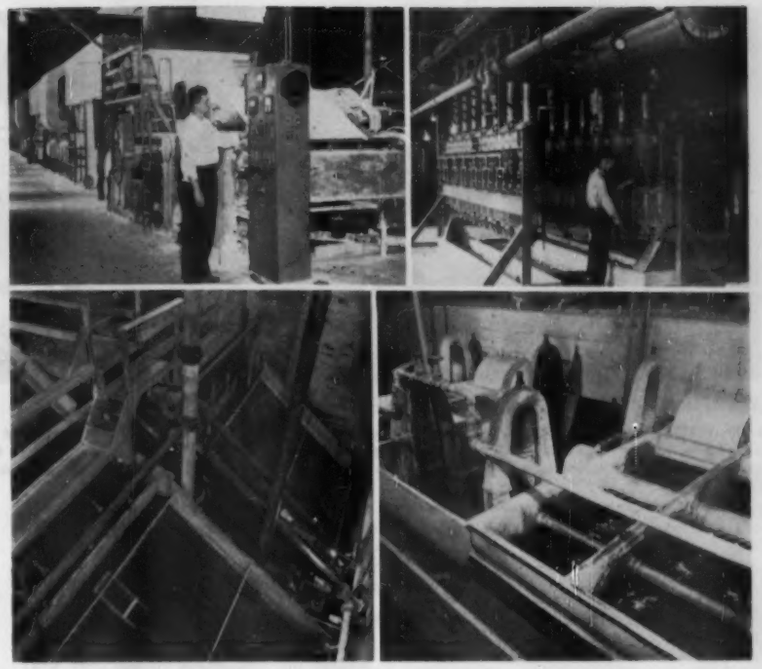
Fabulous Records Seen by 1975

If the trend continues for new markets and products, he indicated fabulous records could be expected by 1975. Use of hardwoods, he apparently considered, would be an important factor in making this possible.

In reviewing progress of paper in invading many fields, he said:

"The fiber shipping carton has all but replaced wood. Forty percent of all milk sold today is in paper instead of glass. Multiwall sacks are used in place of textile bags. Facial tissue, wallboard and frozen food containers are other examples of successful substitution. Most of these products have made the Southern pulp and paper industry what it is today."

He went on to say that developments in the North included "plastic coated papers, paper substitutes for cork, paper diapers, printing plates, a substitute for rock wool—and 10% of S. D. Warren products are of this sort."



ST. REGIS IN KALAMAZOO MODERNIZES, TOO

VIEWS OF NEW EQUIPMENT modernizing St. Regis mill in Kalamazoo, acquired in 1946 from Time-Life. Upgrading its book paper products in Michigan was the goal. Upper left—A MICROJET COATER in the coating mill. Upper right—BIRD MACHINE CO. DIRTECS increase pulp cleanliness. Lower left: THESE SO-CALLED "Slide Washers" replaced old washers and were credited with adding to pulp cleanliness. Lower right: BIRD JONSSON knotters were also part of the program to put this pioneer book mill, which used to be Bryant Paper Co., in stronger competitive position in book papers.

Upgrading Muskegon Stirs Rival Mills

REBUILDING OF AN OLD Muskegon, Mich., kraft mill into a modernized producer of quality book papers has proved a "shot-in-the-arm" in more ways than one for the nearly century-old Michigan book and fine paper industry. The entry of a New England producer, new owners of the Muskegon mill, into the Midwestern markets has at least some of the Michigan firms studying upgrading potentials for themselves.

It would be an exaggeration to say the Michigan book mills industry is in state that might be compared with a man in a sealed room with a time-bomb. But they are a bit stirred up.

This was an impression gained in interviews by PULP & PAPER with a number of leaders in Michigan during a recent tour of the Wolverine state. Anyone who thinks the acquisition of Central Paper Co. by S. D. Warren Co., of Boston, and its conversion to that company's quality products is an isolated event in the Midwest is liable to be surprised by some significant repercussions.

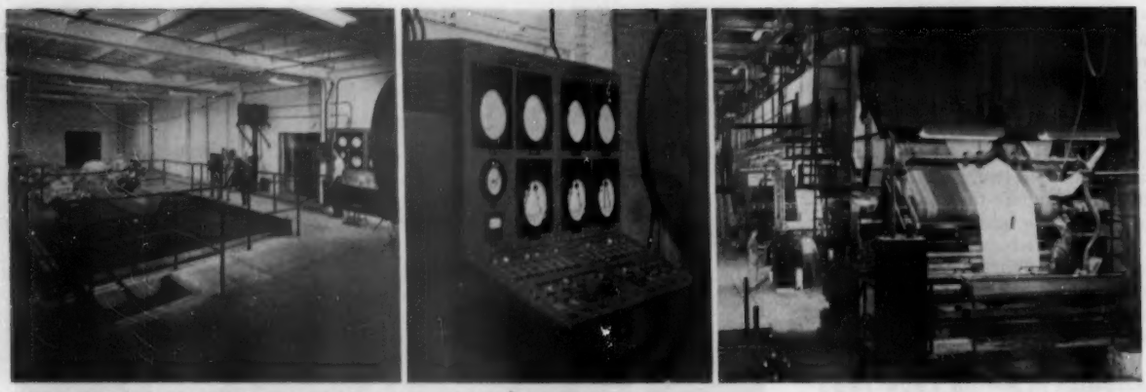
It was close to zero weather when PULP & PAPER sallied into the Lower Peninsula of the state with the biggest industrial population in U.S.A. The weather outside had no similarity to that prevailing in some board rooms along the Kalamazoo River.

"Anything can happen now," was almost a byword and this meant the possibility of mergers of old book

FROM MAINE TO MUSKEGON

FRANK W. ROBERTS (left), who was Chief Engineer of S. D. Warren parent mill at Cumberland Mills, Maine, has been transferred to Muskegon, Mich., to be Mill Manager there.

EVERETT P. INGALLS JR. (right), also transferred from the Maine mill to Michigan. His duties there are as Assistant Production Manager. He is son of Vice Pres. Ingalls of Warren.



SOME INSTALLATIONS OF RECENT YEARS IN KALAMAZOO VALLEY

Left—WASTE PAPER TRAVELING CONVEYOR in Kalamazoo Paper Co.'s new Hydrapulper and stock preparation system with Shartle-Dilts equipment. Middle view—Minneapolis Honeywell Brown instruments for centralized operation of Kalamazoo Paper's Hydrapulper and cooking system. Right view—Air Doctor Coater with high speed drying tunnel at Watervliet Paper Co.

paper companies or the purchase of one company by another. One or two transactions were being discussed. (BULLETIN: *At press time, first such transaction—Michigan Paper Co. of Plainwell was purchased by W. C. Hamilton & Sons Inc., of Miquon, Pa.*)

To borrow from the parlance of the chemist, the entry of S. D. Warren into the big Chicago and Detroit markets with its coated and specialty papers—long a by-word for quality in this industry—is serving as a catalytic agent to the Michigan industry.

"The best thing in the world that could happen," is the way one industry old-timer expressed it.

It is expected to stimulate some Michigan book mills to further modernize their own operations. It certainly would be misleading to suggest there are not progressive companies in the Kalamazoo Valley. Some of the most progressive book mills are here, although these are off-machine coating mills and generally not in the field of competition with the high-speed mass producing on-machine coaters. Many have been high cost operations, with little cash to spare for making their operations more efficient. This has spurred talk of amalgamations, in order to strengthen them.

In any discussion of the book paper competition in Michigan, it would be erroneous to suggest that S. D. Warren and its people, headed by Mr. Olmsted, were not warmly welcomed in that state. On the contrary, there have been many evidences of just the opposite. The high caliber of gentlemen in the Kalamazoo industries was shown in the way Warren men were welcomed. It was something like coming back home for Mr. Olmsted, as a matter of fact. Besides being born in Indiana, he and his father were experienced in the Chicago paper markets before they went with Warren.

Not only were 19 of the Warren people—Mr. Olmsted himself and others from the mill—especially honored at a Michigan industry dinner in Kalamazoo. But Olin Callighan, technical director of Edgar Brothers and an advisor to the pulp and paper department at Western Michigan College, took most of the 19 on a tour of the college and its laboratories, where they were invited to use all facilities.

Quality Book Paper—Muskegon Aim

WHAT IS S. D. WARREN going to do at Muskegon?

In 1954 it is spending $3,000,000 to further convert it to white paper, and may spend $10-$15,000,000 in future years.

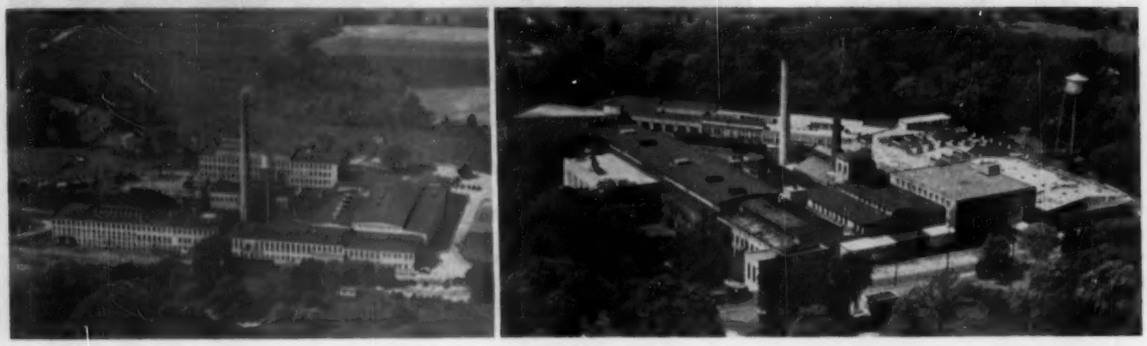
It will use more hardwoods, which are now growing in abundance in close proximity to Muskegon, which is 90 miles north of Kalamazoo.

Rumors that it would make semi-chemical pulp were laid to rest by George Olmsted, Jr., Indiana-born president of S. D. Warren. who told PULP & PAPER that semi-chemical is definitely out and that the pulp will be straight kraft. A new bleach plant, recovery boiler and woodyard are longterm plans..

One of their new Michigan com-

TWO OF KALAMAZOO VALLEY MILLS

Left—LEE PAPER CO., at Vicksburg, Mich., where a new differential drive Beloit machine for upgraded fine papers was one of big events in Valley in recent years (Feb. 1952 issue of *PULP & PAPER*). Right—WATERVLIET PAPER CO., Watervliet, Mich., which has pioneered in Valley with a pilot plant for semi-chemical woodpulps for quality paper furnish.



KING SIZE DIRTECS

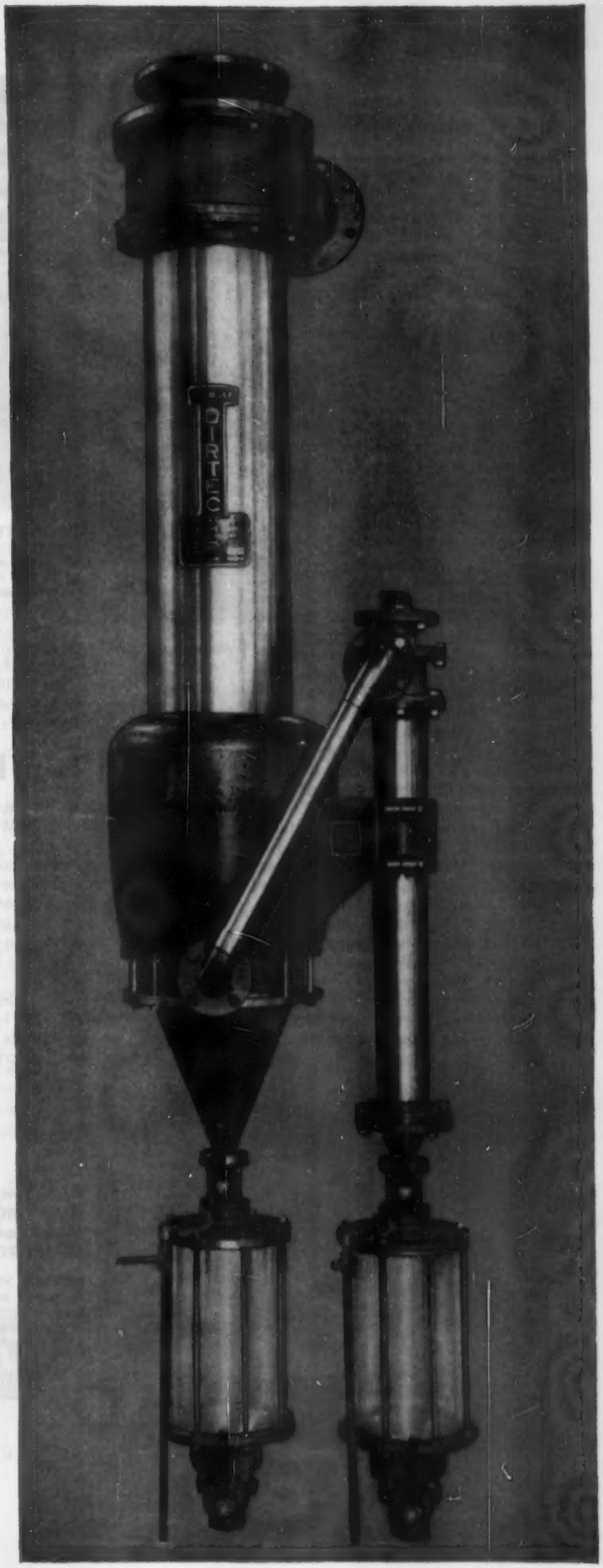
(12″ Dirtecs with 4″ Auxiliaries — capacity 1400 gallons per minute)

King Size Dirtecs are doing a whale of a job of dirt removal in pulp mills and board mills.

Lots of 'em already installed and on order.

Are you fully informed on this highly successful development? If not, get in touch with

BIRD MACHINE COMPANY
South Walpole, Massachusetts



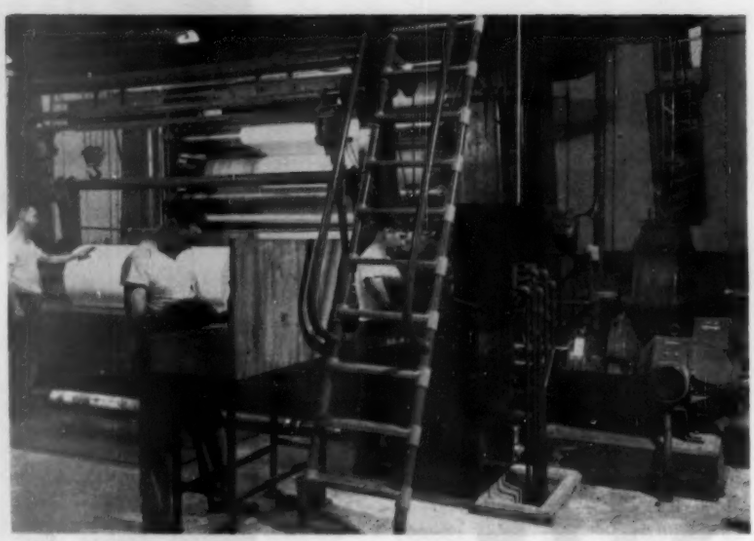
petitors, however, did not conceal his admiration for Warren pulps when he remarked: "They have proved in New England that they can make a fine pulp out of any species of tree brought into the mill."

Another guesses that the effect of this use of hardwood fibers in Muskegon for coated papers may cause some of the other Michigan book mills to use more woodpulp and less reclaimed waste paper, where various inks and other ingredients have been giving serious trouble. There was also some talk of other mills getting together in operation and sharing of a semi-chemical mill.

At Muskegon, S. D. Warren has plans for many other improvements, although some plans have been deferred. Two of the three Fourdrinier machines, which trim 144, 120 and 96 in., are expected to be extensively rebuilt—No. 2 and No. 4. Refining improvements and off-machine coating will be introduced. A finishing room addition is under way.

Rice Barton Corp., New England machine builders with long experience collaborating with Warren and with considerable experience in coating processes, is carrying out much of the rebuilding program. Reliance Electric & Engineering Co. share in the work. Sumner S. Sollitt of Chicago, recently engaged as a consulting engineer for the doubling of capacity of Michigan Box Board's semi-chemical mill at Filer City, is consultant for Muskegon additions.

Frank W. Roberts, who was chief engineer at S. D. Warren's Cumberland Mills in Maine, has been transferred to Muskegon as mill manager. Everett P. Ingalls, Jr., Maine graduate and son of Vice Pres. Everett P. Ingalls of S. D. Warren, was transferred to Muskegon as assistant production manager. Otherwise, key Central Paper staff are retained. Called in for special technical work is L. Paul Newton, another Maine graduate, who was assistant professor of pulp and paper technology at Western Michigan since 1951.



QUALITY IS WARREN KEYNOTE

THIS IS TYPE OF EQUIPMENT which S. D. Warren Co. will install in its new mill at Muskegon, Mich., to supplement its line of printing and quality papers. This is an Appleton Machine Co. supercalender with Westinghouse drive at the S. D. Warren parent mill in Cumberland Mills, Me.

It had been previously announced that by 1955, Muskegon's capacity would be increased by close to 60%. It has five kraft digesters. Warren rates its ultimate capacity at 200 tons per day. Already it is making coating base and uncoated book papers.

Warren Is a Leader of Industry

At Cumberland Mills, 8 miles from Portland, Me., S. D. Warren has 13 Fourdrinier machines, trimming 50 to 140 in. Its supercalenders trim up to 84 in. This mill makes 450 tons a day of coated papers, other book papers, litho, eggshell, offset and English finish and its soda pulp mill was rated at 160 tons by latest report.

It has a Combustion Engineering soda recovery plant (150 tons a day —480 lbs. of dry solids handled daily), which was described and illustrated in an exclusive article in Pulp & Paper some years ago. New England pulp makers will say it is still the finest plant of its type in the world.

Another innovation of S. D. Warren in New England, which might some day be seen in the Michigan woods, is its own portable system of bunkhouses, messhouses, etc., for woods crews.

HERE'S MODEL AND "MOTHER MILL" for MUSKEGON

THIS AIR VIEW Shows the parent mill of S. D. Warren Co. in Cumberland Mills, Maine, eight miles from Portland.

Eight Book Mills in Valley

There are a dozen Michigan mills which might be regarded in competition with the rejuvenated Muskegon mill. Of these there are eight so-called book mills grouped closely together in the Kalamazoo Valley whose history began when another New Englander moved to Michigan, Benjamin F. Lyon, who had the "know-how" for founding Kalamazoo Paper Co., pioneer mill of the valley, in 1866.

Some of America's outstanding mills were founded in this valley, by the Curteniuses, the Bryants, the Milhams, the Bardeens—illustrious names that are still identified with this industry.

They didn't have wood, nor much

Should Your Mill Switch To Ammonium Bisulphite Pulping?

Among the major advantages are faster cooking, increased yields, elimination of scale, decreased chemical requirements, and the ability to pulp hardwoods

By Gordon A. Crowe

Technical Service Representative
Spencer Chemical Co.
Kansas City, Mo.

Ammonium bisulphite pulping is currently a subject of considerable interest to the management of many leading mills in this country. At the present time nine mills, representing a pulp capacity of over 1,200 tons per day, are operating on ammonia base. Other companies are presently conducting tests to help determine what their future course will be. Since ammonium bisulphite pulping certainly is not a new idea, why this sudden interest?

The explanation seems to break down into three parts: Availability, Cost and Waste Disposal.

Availability. There has been and still is a shortage of ammonia. However, indications are that adequate and reliable supplies will be available to the paper industry soon.

Cost. There is no doubt that ammonium bisulphite acid costs more per gallon than calcium bisulphite acid. This was once considered a serious disadvantage. We now know, however, that the difference is usually more than offset by savings made possible by the use of ammonia.

Waste Disposal. Many companies are giving serious consideration to the evaporation and burning of waste liquor. Because of scaling in the evaporator and fly ash from the boiler, calcium liquors present a more difficult disposal problem than do ammonia liquors.

Because operating conditions at different mills vary widely, it is usually advisable to make a test run before committing a plant to operation on ammonia base. Engineering assistance is available from the technical service sections of major ammonia suppliers.

Gordon A. Crowe

Conclusions reached by one mill which conducted a 23-day ammonia test run were:

1. Ammonia base pulp gave increased yields when the regular mixture of softwoods was used.
2. Cooking time for softwoods was reduced by at least one hour.
3. Pulp quality was as good as and probably slightly better than the regular calcium base pulp.
4. A mixture of hardwoods (beech, birch and maple) can be cooked in seven hours or less.
5. The use of a small percentage of hardwoods will pay for the increased cost of ammonia base.
6. Digester operation is more uniform when ammonia is used due to clean circulating systems.
7. Bleaching time and chemical requirements can be reduced when the pulp is made from ammonia base acid.

If you have a question about Ammonium Bisulphite pulping, we'll be glad to hear from you. There is no charge or obligation for this service. Just write: Technical Service Section, Spencer Chemical Company, Dwight Bldg., Kansas City 5, Missouri.

water, but they simply liked the valley as a location and they were near the great Chicago paper market. This was an industry based on waste paper and de-inking, for in those days the softwoods had been denuded from Michigan by the old time lumber industry. The hardwoods, basis of the new S. D. Warren expansion, have been a comparatively recent growth—the result of an intensive long-term reforestation of Michigan. Driving through highways of the Lower Peninsula, a PULP & PAPER editor passed many miles of densely growing hardwoods.

Rebuilding Machine at Munising

MUSKEGON DIVISION of S. D. Warren Co. is not the only mill in Michigan being improved and modernized. Up on Lake Superior, the 52-year old Munising Paper Co., subsidiary of Kimberly-Clark Corp., which became its owner in Dec. 1951, is carrying out a similar program.

No. 2 Fourdrinier machine was being shut down in February for an extensive rebuild job, and considerable other work has been carried out at what K-C's classy employe magazine *Cooperation* calls its "Seaport Mill" on one of the finest Great Lakes harbors. A new stock system is being installed for No. 2.

The exterior of this sulfite pulp and paper mill has had a face-lift, with glass brick windows replacing old wooden frames, making an attractive contrast with natural limestone walls. A new woodyard crane has been added and a new water tank has been built. New manufacturing equipment has replaced old; some has been added. Electrical equipment has been replaced. Additions include installation of a third saturator and rebuilding of another one. These are impregnating machines for treating paper with a latex compound.

MUNISING'S "SEAPORT" MILL

MUNISING PAPER CO., Kimberly-Clark's "Seaport Mill," is spotted prominently in this map. Kimberly-Clark has already spent about a million dollars modernizing it. Other K-C mills are at Neenah, and nearby Kimberly, Wis., and at Niagara, Wis. Also at Terrace Bay, Ont. MUSKEGON, MICH., is location of new division of S. D. Warren Co., which is entering that mill into Midwest coated and printing papers competition with eight mills around Kalamazoo.

Cooperation mentions some interesting history about Munising:

Its two Horne & Sons paper machines trimming 120 in., speeds up to 560 fpm, were built for Russia many years ago. They were already loaded on flatcars when shipment was delayed—probably by the Russo-Japanese War. Munising mill officials came along and bought them, or else they might today be making paper behind the Iron Curtain.

A young man named D. Clark Everest (the same who is now chairman of Marathon) was assistant to the mill manager in the early days. The manager is now Bill Fieweger, sent there from K-C's Neenah headquarters.

Founding partners of Munising were Frank Milham, then president of a Kalamazoo paper company, two of the Upjohns, still Kalamazoo drug manufacturers, Charles Fuller and H. H. Everard, also of Kalamazoo, and two Chicago men. Mr. Everard was first president and mill manager.

Cooperation told some reasons behind K-C's purchase of Munising—the chance to tie together a woodlands procurement program in North Michigan, the addition of a writing paper line, and the concurrent research both companies were doing on some specialty lines.

Munising was in financial difficulty, particularly over a longterm bonus plan, which has now been discarded after study by AFL unions in cooperation with K-C, and replaced by a new system of hourly rates, with some piece rates.

About a million dollars have gone into rebuilding in two years, and there are more projects ahead.

Munising has a payroll of 550 in a town of 4,700. It has a 3-digester, 100-ton sulfite mill. It has tub beaters and jordans for each machine. The converting plant is unusual and has a coater, waxer and the saturators for processing specialty industrial and household papers. A boiler house is relatively new.

LOCATION OF S. D. WARREN PARENT MILL

It is eight miles from Portland, Maine. It is shown in relation to other mills in area. Long known as high quality mill, it has set a pace in book and other quality papers that is expected to step up the grades sharply at Warren's new Muskegon mill in Michigan.

Werling Named Manager For All K-C Mills

Forrest H. Werling, manager of Kimberly-Clark's Neenah, Wis., mill, is new manager of mills for the corporation, assuming responsibilities held since 1947 by Fred S. Seaborne, now vice president in charge of manufacturing.

The title of manager of mills is new, the responsibility being a part of that previously held by the general superintendent.

Mr. Werling is succeeded as manager of the Neenah mill by Theodore H. Perry, who has been superintendent of Kimberly-Clark's creped wadding operations at Niagara Falls, N.Y., for 12 years. He has been 23 years with K-C.

Mr. Werling came from Iowa in 1927 following graduation from Cornell College. His early work was in research at Niagara Falls. Later he was superintendent of manufacturing at Lakeview and Badger-Globe mills and was named manager of the latter mill. Later he was named manager of both Lakeview and Badger-Globe.

St. Regis Plans Superior Products Co. Purchase

Application has been made by St. Regis Paper Co. to the Securities and Exchange Commission for approval to exchange 93,000 shares of St. Regis common stock for 30,000 outstanding shares of common stock of Superior Paper Products Co., Pittsburgh, Pa. If approval is granted, St. Regis would operate the two corrugating plants of Superior as a subsidiary.

SCOTT EXPANSION AT EVERETT

THIS NEW AIR VIEW shows Soundview Division of Scott Paper on Everett, Wash., harbor as it looks today. Enlarged main offices are near flagpole at extreme left. Next to right is biggest bleached sulfite mill in world. The long high building in this group houses 12 digesters, half of which are going over to ammonia, facilitating an increase in production to about 720 tons a day. Next can be seen big round chip silos and big log hydraulic barking plant. New building on right houses new 206-in. tissue paper machine—one of fastest in world. Note 2,100 ft. long elevated big pipeline which carries slush pulp from pulp mill to paper mill.

SCOTT EXECS ACTIVE AT EVERETT

(Left) PAUL C. BALDWIN, Vice Pres. in charge of all West Coast operations and especially directing engineering and expansion at Everett. (Right) LEO S. BURDON, Asst. Vice Pres. and coordinator of Coast operations.

(Left) HENRY DENNIS, Asst. Vice Pres. in charge of wood procurement. (Right) N. WILLIAM COSTER, Gen. Supt. of pulp and paper operations, West Coast Division.

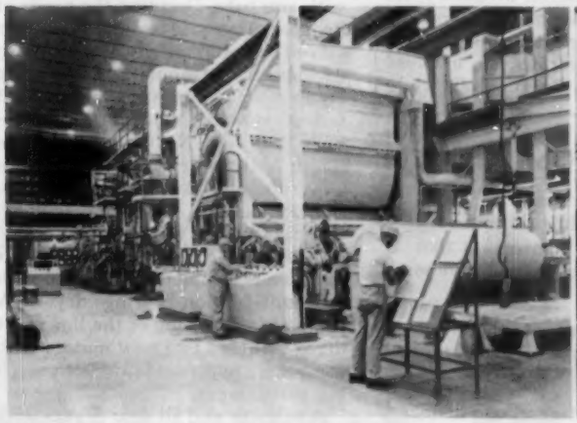
Scott Paper Already Plans Third and Fourth Machines at Everett!

No. 3 AND No. 4 tissue machines are already in the engineering "works" for the Soundview Division of Scott Paper Co., Everett, Wash., where a second big tissue machine will start up this summer—about six months after the first one. Meanwhile, more drying capacity is being released for making pulp on the drying machines in the sulfite mill.

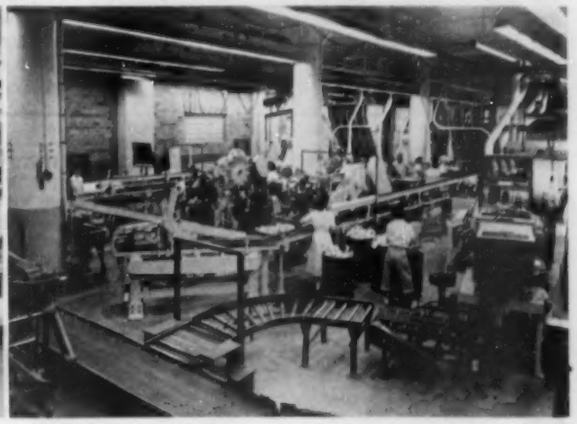
Thus, there will be more market pulp available as well as more pulp for Scott paper mills. As reported last month a program of expansion in the 12-digester bleached sulfite mill in Everett will bring that production up to about 720 tons a day from 600 (see page 43, Feb. issue). This is made possible with new equipment and a changeover of half of the pulp mill to ammonia base cooking later this year, from conventional calcium base. This will make possible faster cooks and use of additional species of wood in the six digesters in the ammonia base half. The 12 digesters have always been operated in two sections.

On this page are Scott Paper's first pictures of its new mill addition in Everett. The 206-in. wide, 380-ft. long special Scott-design, Beloit-built machine, whose startup was previously reported in PULP & PAPER, is the fastest machine on the West Coast, and one of the fastest in the world. The second machine alongside it will be a duplicate. No. 3 and No. 4 will be Yankees too.

When visited by PULP & PAPER last month, work was proceeding rapidly on the new additions, also including extension of the converting end, presently consisting of five bays, with eight bays to be added. A new plant was being built where Scott will make its own wet strength resins and dyes.



THIS IS BIG 206 in. tissue machine making about 85 tons of tissue for Scott products to be sold to West Coast markets. It is one of fastest machines in world. Beloit Iron Works built it to Scott specifications and its inlet and other sections are specially patented by Scott. It has a 12 ft. pressure dryer. The drives are by General Electric.



IN STRAIGHT LINE BEYOND new Everett paper machine of Scott is this finishing department where consumer size tissue rolls are formed in high speed, intricate operations and are wrapped and packaged for Coast markets. Five bays comprise this section and eight more bays will be added.

MORE CONVERTING AND UPGRADING has been its watchword. On Machine Building roof is lettered "Since 1852—The Sorg Paper Co."

Converting Expansion Strengthens Sorg

DURING RECENT YEARS, Sorg Paper Co., producer of quality papers for printing, converting and industrial uses on six machines (over 200 tons daily) in Middletown, O., has substantially expanded its product development, technical and manufacturing departments.

In order to produce new grades and upgrade established ones, substantial sums of money have been invested in converting equipment in line with a policy to convert an increasing portion of its paper production—exemplifying one of the significant overall trends today in this industry, and especially in the Northern mills, particularly in grades competitive with the South. An extensive improvement program resulted in major changes in Sorg's plant and equipment.

DONALD G. DRISCOLL, Sorg President —"Expansion of converting brought new equipment and more jobs."

Sorg has a background of over 100 years of manufacturing a wide variety of papers, and carries a diversified raw material inventory. Its operation is now more diversified, which should strengthen its position in the overall paper market, in event of some grades slacking off while others remain strong. Diversification is looked upon by many industry leaders today as an important factor to assure balanced production and sales.

The list of recently developed specialty papers at Sorg include such grades as saturating, twisting, match stick, tracing, gasket, steel wrap, glass interleaving, pattern board, water repellent kraft laminating, corrugated-coated bag paper, and wet strength kraft.

Two Paper Machines Rebuilt

For many years, Sorg had two of its six paper machines equipped with size tubs. Deciding the needs of its special grades would be better served by tub sized papers, Sorg decided that it should add tub sizing equipment to its two largest and fastest running machines. Accordingly, last year, No. 6 machine in the Smith Mill was rebuilt, to include a size tub and 11 additional dryers, thus keeping its drying capacity on tub sized papers the same as heretofore on non-tub sized papers. This machine is completely equipped with new anti-friction bearings dryers. A complete revamping of the line shaft drive included two new motors with control for applying fairly high creping percentages.

A tub size and all new dryers with anti-friction bearings were installed on the No. 1 machine in the Sorg Mill late last summer. It retains the same number of dryers, but is now

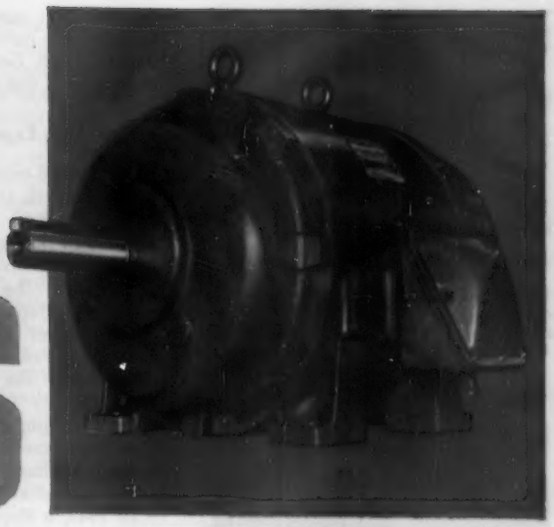
Paper Mills Show Trend to More Converting

AN ARTICLE in the Dec. 1953 issue of PULP & PAPER, by Frank W. Egan, pointed out that a significant trend today in this industry is toward increasing converting operations in primary mills. He pointed out that it is being done quite easily and economically, and even helps business of independent converters, instead of harming them.

This article tells how an Ohio paper company has expanded its converting greatly in recent years, diversifying its products and upgrading others.

A manufacturer offering a product with a converting stage done, may have competitive advantages in more active selling in 1954 and years to come. Also converting in the same plant is important in relation to high labor costs, taxes and overhead.

"ALL MOTORS ARE NOT ALIKE!"



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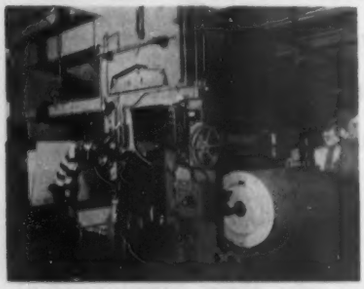
MAKES PROFESSIONAL TOWELS

THIS TISSUE FOLDER at Sorg also makes industrial wraps. Operator James Stock, in picture, is now in army. Paper Converting Mach. Co. made the machine.

PRINTS DECORATIVE KRAFT

STARTING UP OVER YEAR AGO was this 2-color aniline printing press built for Sorg Paper by Hudson Sharp Co.



THIS IS 2-COLOR ROTOGRAVURE

ANOTHER RECENT addition for Sorg is this rotogravure press by American Type Founders. John A. Gibbs Jr. is operator.

BOOKS BACKGROUND A MEETING

NEW SORG CONFERENCE room in offices built in Smith Division shows library in back. Accordion door at left makes two rooms.

designed for specializing in manufacture of lightweight, tub sized papers. Both No. 1 and No. 6 machines have top speeds of 1000 fpm.

Converting Expansion in 1946

In 1946 the company recognized its future growth and development depended in part upon converting a portion of its paper production. It installed a straight roll coating machine in the then-called "resin products department." On this coater, paper was impregnated or coated with resins and plastic materials. One of the products was a line of brilliantly colored display and decorative papers named Koverite. This department operated on an experimental basis under the direction of the technical department.

In 1949, a department was established for manufacture of laminated cards for use in conjunction with the new magnetic files. In this new field, demand is constantly expanding.

Another secondary operation at Sorg is converting a portion of facial quality tissue production into professional towels and industrial wipes known as Kay-Pees. This is performed on a tissue folding machine built by Paper Converting Machinery Co., of Green Bay, Wis., capable of folding 456 napkins, 13½x18, per minute.

Encouraged by success of its first converting ventures, and determined to substantially increase such operations, Sorg altered the second floor of its Smith Mill to make it adaptable for converting in 1952. The first of these operations started in the new converting department was that of printing kraft papers on a two-color aniline (flexograph) printing press built by Hudson Sharp Co. Of special interest were the printed kraft Christmas wrapping papers.

A new two-color rotogravure press made by American Type Founders, Inc., Klingrose Division, of New York, was put into operation in the fall of 1952.

Then in 1953, an important addition was a 42 in. Matador bag machine with an aniline printing press and handle forming attachment. This machine will manufacture notion and millinery bags with or without reinforced, cut-out handles.

These bags and printed kraft wrapping paper are part of the much - publicized Gardner - Sorg Family Packaging program announced to the trade at the National Paper Trade Association convention in Chicago in late 1952. Gardner Board and Carton Co., of Middletown, and Sorg combined forces on this venture, with Gardner manufacturing folding boxes, and Sorg bags and wrapping paper, all in matching colors, designs and over printing with stores' names.

Sorg's converting department has been equipped with a Cameron rewinder—one of the fastest available —which is the shear cut type, eliminating the need for dusting, and which has automatic tension compensation and electric eye side guide controls.

A pilot coating machine and pilot laminator are also in operation in Sorg's Converting Department. This equipment was used principally to develop a new method of applying protective film to wallboard, plywood, steel and other flat surfaces. The process is covered by patents assigned to Sorg and is described as revolutionary in concept, with a potential which is most encouraging.

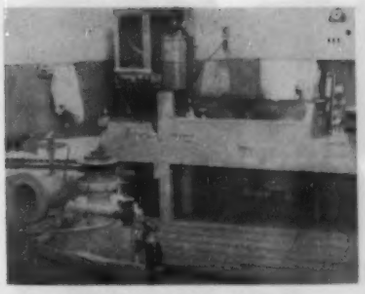
More Chance for Staff Promotions

From a personnel standpoint, the converting department has provided and will continue to provide unusual opportunities for advancement to responsible positions for those qualified. Presently, the department operates under the supervision of the manufacturing and the technical departments. As is to be expected, this growth and expansion has directly or indirectly affected practically every part of Sorg's organization, with field selling, accounting, order, traffic, purchasing, and industrial relations, to mention a few, all contributing in carrying out the increased activities resulting from this expansion.

In a recent message to employes, Donald G. Driscoll, president of Sorg, said. "The expansion of the company's converting department requires extensive new equipment and much additional time and effort and, therefore, additional people in practically every division and department. Many new people have been added to our organization during recent years and more will be added. It is important to the success of the company, and to each one of us, that we make constant progress toward the goals outlined. We appreciate the wholehearted cooperation that has been given by all divisions and departments. This cooperation has made possible the progress that has been made to date, and assures continued opportunities and progress."

Office and Laboratory Additions

Much-needed additional office space was provided when in late



ALL PULP IS TESTED HERE

LABORATORY BEATER room is a recent Sorg addition, too, and here all samples of pulp are tested.

NEW LABORATORY HAS 5 BENCHES

SORG PAPER CO. added a new Main Lab in 1952 with all modern equipment. A plastics lab adjoins this.

1952 the company opened its new mill office located in the Smith Division. This office covers 10,000 sq. ft. and houses the operating division, composed of technical, manufacturing, engineering, and standards departments.

The office has glass block windows with clear glass inserts, asphalt tile floor, buff-tinted, sand finished plaster interior walls with off-white acoustical plastered ceilings, lighting of the fluorescent, instantaneous-start type with the modern, shadowless type in the drafting-room, and complete air conditioning. Accessory equipment includes the electrically operated auto-call system, sprinkler system, and plant broadcasting system speakers. All offices were completely furnished in new, modern soft-tone oak.

The new humidity room for testing papers is held at constant temperature and humidity by separate conditioning equipment. The new conference room at one end of which is the library, has an accordion door making it possible to divide this room into two conference areas.

The Main Laboratory is 30 by 50 ft. and contains much modern equipment. Five lab benches, three having stainless steel tops and two stone, are equipped with gas, air electrical outlets, steam, and hot, cold, and distilled water connections. The biological lab contains a new incubator and refrigerator. The plastics lab adjoins the main laboratory and converting department so that it can be used by both technical and production personnel.

Present trends in the converting field are indicative that with thorough research and development work, Sorg Paper Co. may expect to gain success in this field. Since its 100th anniversary in 1952, Sorg has made important decisions and taken long steps to establish its position in the field of converting.

Hartnagel, 'Solid Citizen', Makes It!

HIS SILVER ANNIVERSARY in the Pacific Coast pulp and paper industry recently passed for A. Nelson Hartnagel without any particular notice by his scores of friends and associates in the Far Western mills and the companies serving them.

But to these scores of old friends "Nellie" Hartnagel has long been recognized as one of the "solid citizens" of that western segment of this industry. For the past nine years he has been assistant resident manager of Fibreboard Products' sulfite pulp and board mill in Port Angeles, Wash., right hand bower to Verne Basom, who is manager there.

For almost eight years, Mr. Hartnagel also has carried another important responsibility—manager of the Soleduck Logging Division, an extensive woods operation on the Olympic Peninsula which Fibreboard purchased to give the sulfite mill a self-sustained wood supply. Ever since this purchase, Mr. Hartnagel has carried the double responsibility of mill duties and logging direction. It is probably a unique role in this industry.

All of his career in the industry —now in the 26th year—has been

A. N. "NELLIE" HARTNAGEL — past his 25th Anniversary in Pacific Coast industry.

at Port Angeles, farthest Northwest industrial town of the U.S., where there are three pulp and paper mills as well as lumber and plywood industries. It is at the northern entrance of the Olympic National Park and just outside the harbor is a favored fishing ground for King salmon.

"Nellie" Hartnagel went to Fibreboard as chemist from his former home town of Seattle after graduating from the University of Washington college of forestry. For years he and Mrs. Hartnagel and their daughter and dachshund have lived on the hillside overlooking Port Angeles harbor.

He has participated in many cooperative industry endeavors. One of his "pet" projects with colleagues was swelling the membership of the Port Angeles Elks Club by persuading many supply and equipment "peddlers" from other cities to join it.

Stentz Now Plant Engineer at Rittman

The new plant engineer of The Ohio Boxboard Co., at Rittman, O., is E. L. Stentz. He succeeds the late George Ehermann.

Mr. Stentz was born in McKeesport, Pa., and holds two degrees from Carnegie Institute—b.s. and m.e. He worked for U. S. Steel from 1933 to 1947 as industrial engineer, foreman, general foreman and assistant superintendent in the maintenance and engineering divisions.

From 1947 to 1952 he was superintendent of maintenance at Ohio Boxboard, and from 1952 to 1954 superintendent of engineering.

E. L. STENTZ, who succeeded late GEO. EHEMANN as Plant Engineer of The Ohio Boxboard Co.

Hawaii Sugar Industry Persists in Product Search

The Hawaiian Sugar Planters Association has decided to continue its research in seeking an economic use of waste bagasse on the islands, in its program headed by G. W. Alijan, on loan from C & H Sugar Refining Corp., San Francisco. The 600,000 tons of fiber and 400,000 tons of pith might be used for pulp or paper products and livestock feed. Also fertilizers, plastics and hardboards were named as possibilities.

Outside of key technical personnel from the sugar industry, W. A. Robinson, formerly with Southern U.S. paper mills, and S. B. Knapp, are paper technologists, and R. W. F. Morel, chemical engineer, is also working on the project.

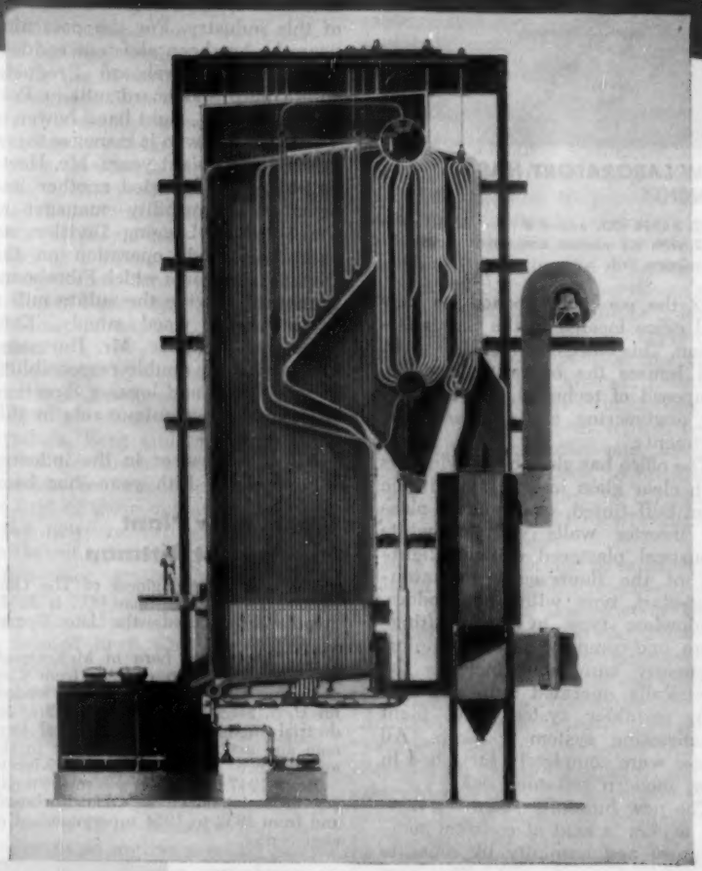
4 B&W RECOVERY UNITS

Serve Charleston Mill of West Virginia Pulp & Paper Co.

Four B&W Recovery Units are establishing high chemical recovery rates at the Charleston, S. C., mill of West Virginia Pulp & Paper Co. The first B&W Recovery Unit for Charleston was ordered in 1936, and repeat orders were placed in 1940, 1945, and 1948. The four units have a combined capacity of 8.15 million pounds of steam per day.

Preventive cleaning of gas passages, practically all of which is done automatically, helps to keep the furnaces operating at high efficiency.

The performance record of B&W installations such as those at Charleston puts the B&W organization in a good position to solve your recovery problems. The Babcock & Wilcox Company, Boiler Division, 161 E. 42nd Street, New York 17, N. Y.



Typical B&W Recovery Unit

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Paper White RB has an exceptional ability to convert incident ultra-violet light to visible light which is *added* to the light reflected from the paper. From the ultimate reader's point of view, this enhanced reflectance produces an ocular sensation that can best be described as "whiter-than-white."

In any type of application . . . beater dyeing, surface coloring, dip-dyeing of light weight stock, or coating whites and pale tints . . . Paper White RB sets new standards of brilliance.

Also, where bleaching is uneven, Paper White RB will bring the paper up to a uniform high-whiteness simply by adding the proper amount.

Another feature is stability of shade of papers containing Paper White RB on storage in either acid, neutral or alkaline atmospheres.

Samples and technical assistance on the use of Paper White RB are available on request.

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IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LIMITED, MONTREAL

From Research to Reality

Canada Takes "Second Breath" on Expansion

Modernization and additions planned for Bowaters, Gaspesia, International, Powell River, St. Lawrence

CANADA'S QUARTER BILLION-dollar mill construction boom may have lost some of its momentum, but not for long.

Right now, they're not building any new Marathons, Longlacs or Harmacs, sparkling, brand-new projects that made such a dazzling picture a few months ago, but the pace of expansion appears to have slackened only long enough for the industry to catch its breath.

In a coast-to-coast tour across Canada, a PULP & PAPER editor found abundant evidence in January-February of interesting activity, based on solid confidence and an awareness that when it comes to wood and wood cellulose this is still Canada's century.

No entirely new enterprises like Columbia Cellulose, MacMillan & Bloedel's Port Alberni or Fraser Companies' Newcastle mills are currently under way, and there are few major reconstruction jobs similar to Espanola, Red Rock, Port Mellon or Cornwall (by KVP Co., Brompton Pulp & Paper Co., Howard Smith Paper Mills and Canadian Forest Products, respectively), but there is no lack of solid growth, and it begins to look as though, given reasonable stability, the industry is heading for another period of moderately large-scale building and modernization. The trend is noticeable right across the country—from British Columbia to Newfoundland.

Additions Made at Bowater's

Take Canada's newest province, for instance, where Bowater's Newfoundland Pulp & Paper Mills are proceeding with an extensive development program that will not be completed for another two years. Most of the improvements here have been in sulfite capacity, sulfite screening, acid plant, groundwood and broke system, steam plant and transportation.

An extension has been built onto the digester building capable of accommodating two new Stebbins-lined digesters, one of riveted construction, built by Horton Steel Works, to be operating this summer. Design and builder of the second has not yet been decided. A new white water tank has been built alongside the digester extension.

The screening system at Bowater's Corner Brook mill for sales sulfite pulp is relatively new and it is not being altered, but a completely new screen room for news sulfite is being erected, and it will be ready by late summer. The blow pits have been dismantled, and in their place two large Stebbins tile-lined concrete blow tanks are being built, with blending tanks of similar construction above them.

The screening equipment will consist of Jonsson knotters, three new, followed by two new stainless steel Sherbrooke rotary washers. A new rubber-covered washer is also being installed. Additional rotary screens have been purchased and the final stage will be served by two new Sherbrooke valveless thickeners. The result, in opinion of company executives, will be one of the most modern screening systems in existence, and coupled with the existing system for sales sulfite will give complete flexibility of operation.

Alterations to Bowater's acid plant are now complete. The sulfur burning equipment has been completely renewed, with two 5 by 16 ft. rotary burners, five Hamilton melters and auxiliary equipment supplied by G. D. Jenssen & Co. The burners discharge to separate combustion chambers, thereby providing two complete alternative gas systems. Considerable alteration has also been effected in the digester recovery system, including provision of a pressure recovery tower.

To provide a greater degree of blending in the stock system, new concrete chests are to be provided for groundwood blending and for broke. The boiler plant at Corner Brook has recently been extended, and erection of a sixth Foster Wheeler boiler is in progress. This will have a capacity of 140,000 lbs. per hour and it will be designed to steam at a pressure of 600 lbs. This will provide ample steam capacity to cover the increased production of the mills. In conjunction with this boiler a new steam turbine of 6,000 KVA capacity is to be installed; this is likely to be one of the final phases in the present program.

In line with its over-all expansion, Bowater's have ordered two new improved newsprint carriers, to be built in Scotland by William Denny shipyard, and the keel of the first is to be laid early this year.

Gaspesia Starts Bleach Plant

Up at Chandler, Que., Gaspesia Sulphite Co.'s new $3,500,000 bleach plant has now gone into operation, designed capacity of the unit being 350 tons daily, with current operating

TAKING PART IN CANADA'S ANNUAL

PROMINENT AT MONTREAL SESSIONS were (left to right) DOUGLAS JONES, Executive Secretary, Technical Section, CPPA, and FRANK L. MITCHELL, General Manager, Canadian Pulp and Paper Association.

BUSY FATHER AND SON TEAM in Montreal were A. T. (FRED) HURTER (left) and A. M. (FREDDIE) HURTER, of the well-known engineering firm of Stadler, Hurter & Co. They have been active in designing improvements to Canadian, U. S., and European mills.

LEADING EQUIPMENT MANUFACTURERS represented in Montreal by: HAL CUNNINGHAM, Vice President, Dominion Engineering Co.; F. S. McDONALD, Homad Services, and G. L. M. HELLSTROM, head of Paper Machinery Ltd., and associated companies. Dominion Engineering is Canada's largest builder of paper machines. Mr. McDonald's company recently took over representation of Curlator, and Mr. Hellstrom represents Swedish and other overseas manufacturers.

rate 250 tons. Gaspesia's mill formerly produced only unbleached sulfite pulp, with an annual output of about 82,000 tons, but the company, which is a wholly-owned subsidiary of Anglo-Newfoundland Development Co., decided that the market for bleached grades was more stable and made the changeover accordingly.

Sherbrooke Machineries (Impco) participated extensively in the Gaspesia project, providing four washers and a continuous hypochlorite generation plant originally designed by Kimberly Clark engineers and for which Impco acquired the manufacturing rights. This system, which results in the need for fewer tanks, is the first of its kind to be installed in Canada. It is a standard bleach process at Chandler—two stages hypochloride, one caustic and one chlorine. Kamyr towers and other required units were installed by Paper Machinery Ltd.

Canadian I.P. Adds Capacity

Canadian International Paper Co., as usual, has been prominent in the parade of expansion and has carried out several projects aiming at higher production. Rated capacity for CIP newsprint production last year was increased about 10,000 tons, and a similar increase is indicated for 1954.

More than $1,000,000 was spent on improvements to one newsprint machine at CIP's Three Rivers mill, including installation of a new General Electric electronic drive. At the company's Dalhousie, N. B., mill, an additional Combustion Engineering 200,000 pph boiler and another 6,000 kw turbo-generator are being installed to furnish additional process steam and power for expanded production. At CIP's Gatineau, Que., mill an additional Combustion Engineering boiler of 200,000 pph capacity was recently installed at a cost of about $1,000,000 to provide more steam for rising production.

Canadian I. P. is one of five Canadian newsprint companies installing couch transfers of various makes and specifications this year as a means of speeding up their machines and reducing sulfite content.

Powell River Co., Powell River, B. C., will be the first to have its couch transfer in running order. It is a Millspaugh unit, manufacturing in Sheffield, England. Although couch transfers have been patented on this continent since the 1920's, Millspaugh was one of the companies to pioneer the development in the United Kingdom, its first job being in 1937. Most couch transfers installed in England have been for much slower machines than those now being affected in Canada.

Powell Speeds Up No. 8

Powell River Co. is putting its couch transfer on its latest machine No. 8, built by Dominion Engineering Co. with Harland drives designed for 2,000 fpm. This machine has been actually operated at about 1600 fpm, but with the couch transfer functioning Vice President Harry Andrews is hopeful that the full rate will be attained.

Another Millspaugh couch transfer is being put in at Consolidated Paper Corp's Wayagamack newsprint mill at Three Rivers, Que., where H. G. Timmis is resident manager, with E. R. McMullen general superintendent.

Beloit Iron Works, which has been in the forefront among manufacturers of couch transfers for years and whose installation at the Crown Zellerbach mill at Port Angeles, Wash., was closely watched by the industry—largely influencing Powell River's decision incidentally—is putting in a unit at Canadian International Paper Co.'s newsprint mill at Three Rivers.

Elk Falls Co., whose new newsprint mill at Duncan Bay, Vancouver Island, went into production for the first time in 1952, has ordered a couch transfer from Dominion Engineering, which built its newsprint machine, and this will be installed during the spring.

Quebec North Shore Paper Co., associated with Ontario Paper, has ordered a couch transfer from John Inglis & Co., and it will soon be in operation at the company's big smooth-running newsprint mill at Baie Comeau, Que.

Expansion at St. Lawrence Mills

St. Lawrence Paper Corp. is nearing completion of its $25,000,000 expansion at East Angus, Que., and Red Rock, Ont., where Mill Managers Tony Gregory and Frank Taylor, respectively, have been directing operations.

At East Angus several old digesters have been replaced with new units and a new Had-mil (Millspaugh, England) 130-in. machine has been installed to produce 100 tons of lightweight kraft daily.

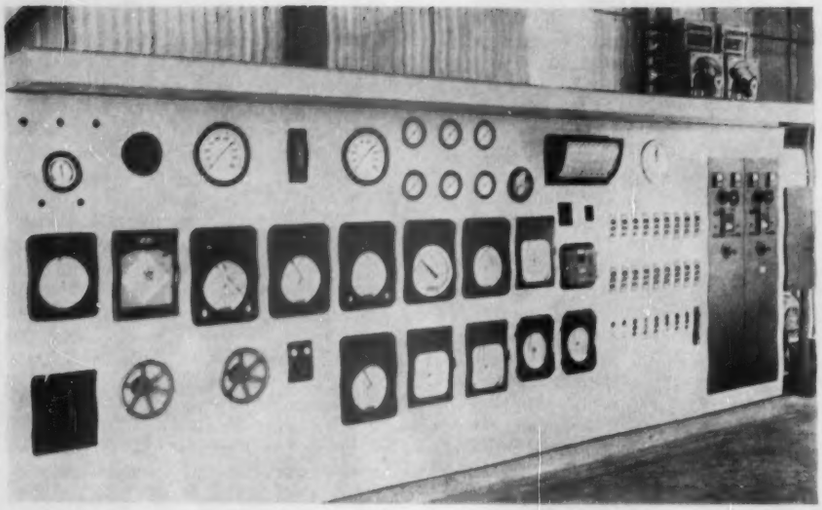
General Manager S. S. Williams told Pulp & Paper that the new machine built for the Red Rock mill by John Inglis & Co. in accordance with Pusey & Jones design is about ready to go into production. It's a 240-in. machine with capacity of 600 tons of liner board per day. The machine formerly in use at Red Rock on liner board—a Dominion Engineering job—was previously in use on newsprint at the company's Brompton mill and it is now to be switched back to newsprint after several years' service as a kraft producer.

Six deckers, a valveless thickener and chest agitation at Red Rock were provided by Sherbrooke Machineries, and other plans have been effected to increase recovery and groundwood capacity. When the present program is completed, St. Lawrence will have 13 machines and auxiliary equipment producing approximately 386,000 tons of newsprint annually, 234,000 tons of kraft and capacity for 53,000 tons of surplus market groundwood and sulfate. The Red Rock mill will have a capacity of 200 tons of newsprint. The company's major newsprint producer is at Three Rivers.

West Coast Expansions

Out in British Columbia, nearly all the mills are either completing important new programs or contemplating new development. Alaska Pine & Cellulose is putting finishing touches on a $6,000,000 modernization scheme at its Port Alice mill. The Harmac mill of MacMillan & Bloedel and Port Mellon mill of Canadian Forest Products have recently finished installations to increase tonnage, and Pacific Mills, Ltd., has been making a survey at Ocean Falls with a view to further improvements.

Just what the next big move on the West Coast will be is anyone's guess. Announcement of Crown Zellerbach Corp. a few days ago that a new mill at Antioch, Calif., would draw pulp from an expanded mill at Duncan Bay indicates that Elk Falls is due for building of a graft mill in the near future. British Columbia Forest Products, which has four large sawmills in the south coast area of the province, is understood to be planning entry into the pulp mill field soon. Kitimat Pulp & Paper Co., a partnership of Powell River and Aluminum Co. of Canada, has completed a survey that has determined the feasibility of a newsprint mill at Kitimat, using surplus power from the multimillion-dollar Kemano development. Western Plywood Co. hopes to build a pulp mill on Quesnel Lake when its forest management license has been approved by the government, and Celgar Development (Celanese) is rapidly completing a forest inventory preliminary to a start on its integrated forest utilization project for the Kootenay district.



THIS MAKES BIG NEW LONGVIEW FIBRE RECOVERY BOILER OPERATE

FISCHER & PORTER and FOXBORO meters and instruments are on left side of this central operating panel for the Combustion Engineering No. 14 Recovery Boiler at Longview. Other instruments are included in this combination board.

New Longview Recovery Unit Takes Load of 5 Machines

IT WAS A TIMELY STARTUP for Longview Fibre Co., Longview, Wash., the largest kraft mill in the Far West, when its big new No. 14 Combustion Engineering recovery boiler went into operation Nov. 28, 1953.

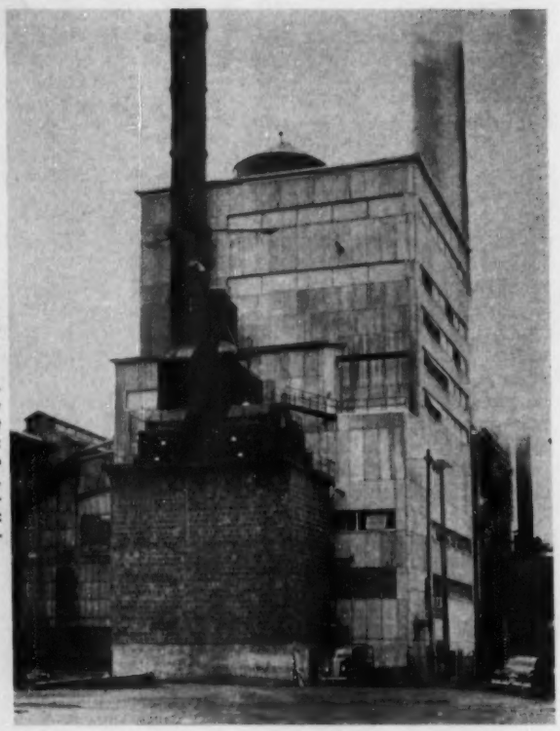
Expansion in production facilities required the additional chemical recovery and steam capacity, as well as the improved efficiency of the late designs employed.

Through use of this new unit, which has its own stack, necessary repairs to the main mill stack, utilized by the other four recovery boilers, were made. Satisfactory and stable operation was obtained at well over rated capacity during this period of operation in which the new No. 14 furnace carried the recovery load of five of the six paper machines.

Longview Fibre makes nearly 600 tons a day of kraft boards and paper, also makes groundwood as well as kraft pulp.

The furnace is designed to handle 1,050,000 lbs. of dry solids per 24 hours, with a steam flow of 165,000 pph. Design pressure is 850 psi pressure at 750° F. at the superheater outlet. Total heating surface is 42,774 sq. ft.

A Research Corp. wet bottom electrostatic precipitator adjoins the 7-story building housing the new furnace. Black liquor received from the multiple effect evaporators passes through the wet bottom of the precipitator. Chemical bearing dust from the flue gases is collected in the liquor which is then delivered to the two-drum cascade evaporator. The 55% solids liquor is evaporated to 65-67% solids as sprayed at low pressure through the six furnace spray nozzles.



CARRIED RECOVERY LOAD FOR 5 MACHINES

NEW COMBUSTION ENGINEERING Recovery Unit went into use at Longview Fibre in nick of time. Designed to handle 1,050,000 lbs. dry solids in 24 hrs. Research Corp. electrostatic precipitator adjoins 7-story building.

A water-cooled furnace bottom utilizes a smelt pool to further protect the hearth. Twin smelt spouts deliver to typical dissolving tank equipment.

The chemical ash system is continuous and utilizes strong black liquor to collect the ash from the hoppers, instead of circulating the weaker liquors normally employed.

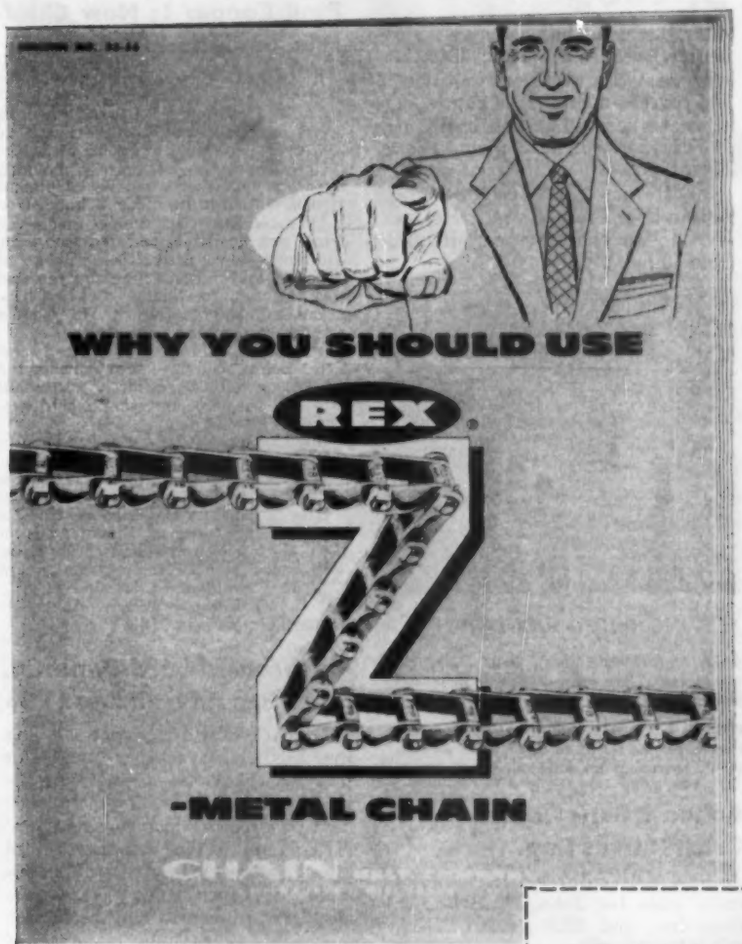
Ten Diamond IK retractable soot blowers and 26 Diamond air puff soot blowers provide the cleaning system for the screen tubes and superheater elements, and the boiler and economizer passes, respectively.

The induced draft fan is located on the discharge side of the precipitator. This avoids the buildup on the fan blades encountered in fans working on dust laden gases.

Construction started in the summer of 1952, when foundation pilings were driven. The erection contractor was Robert L. Johnson Co., Redwood City, Calif. Virgil M. Sutherling heads the Longview Fibre engineer-

HERE'S PROOF

You'll get Better Service ...Longer Life with Rex Z-Metal Drive and Conveyor Chains



What's your problem... corrosion, abrasion, heavy pounding? What's causing your chain drives and conveyors to fail prematurely? This informative booklet has your answer...shows you how you can solve those problems with Rex® Z-Metal Chains. It proves why Z-Metal resists abrasion...corrosion ...takes heavy pounding... with plenty of actual case histories to back up our story.

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54-115

CHAIN BELT COMPANY

4691 W. Greenfield Ave., Milwaukee 1, Wis.

Please send my copy of Bulletin No. 53-56 containing the facts on the superiority of Rex Z-Metal Chains for my service.

Name.....

Company.....

Address.....

City.....*Zone*....*State*.....

District Sales Offices and Distributors in all principal cities.

ing division, whose Alan Anderson and E. M. Read carried the load of detail and coordination. Russ Graff, assistant pulp mill superintendent, was the operating department's liaison.

VIRGIL M. SUTHERLING (left), heads Longview Fibre Co. Engineering Division which was directly in charge of Combustion Engineering Recovery Unit project. RUSSELL GRAFF, Assistant Pulp Mill Supt., was liaison with operating department.

Mail Clerks Must Know 400 Similar K-C Names

The Pentagon at Washington, D. C., has nothing on Kimberly-Clark Corp.'s Main Office building in Neenah, Wis., where mailing department personnel, on the longest delivery route, walks seven miles a day between offices and delivers 20,000 pieces a day.

Cooperation, K-C magazine, says its mailing department also delivers to Central Forms, on Main St., Neenah, to Central Salvage in the same area; to Lake view and Badger-Globe units of Neenah Mill; Appleton Atlas Mill; Kimberly Mill and Research and Development Laboratories.

Six people in mailing have to become familiar with over 1,000 Kimberly-Clark names and about 400 who have similar last names.

Rayonier Opens Southeast Operations Offices in Jesup

The Southeast area offices of Rayonier Inc. have been opened following completion of the single story brick building to house the departments in Jesup, Ga. The office building in Jesup is separate from the new chemical cellulose pulp plant of the company being completed there, and will house purchasing, industrial relations and area comptroller's departments for Rayonier operations in Georgia and Florida.

Heads of the Southeast area departments include Joseph B. Talbird, assistant company comptroller; Walter Thad McDaniel, Southeast industrial relations division manager; and E. J. Johnson, purchasing agent. Buyers and procurement men of Rayonier's Southeast Timber Division, headed by J. Rex Nance, also have offices in Jesup, although the division is headquartered at Fernandina Beach, Fla.

Anheuser-Busch Sales Rep. Bases in Dayton

Tate M. Robertson, Jr., sales manager of the Corn Products Department, Anheuser-Busch, Inc., St. Louis, manufacturer of starches, dextrines, and corn syrups, announces that Robert A. Lemieux, sales representative, is now working out of Dayton, O., under direction of Carl F. Hoelderle, Lake States regional manager. Mr. Hoelderle's headquarters are in Kalamazoo, Mich.

Mr. Lemieux has been with Anheuser-Busch since Jan., 1949. He was formerly in Charlotte, N. C. and covered a number of Southeastern states contacting industrial users of starches, dextrines and corn syrups.

Mr. Hoelderle has been with Anheuser-Busch for 21 years. He was born in Delphis, O., and attended Ohio University.

SERVING PAPER INDUSTRY

CARL F. HOEDERLE (left), Lake States Regional Mgr., has been 21 years with Anheuser-Busch.

ROBERT A. LEMIEUX (right), who has moved from Charlotte, N. C., to Dayton, O., as base of his operations for Anheuser-Busch.

Bolton & Sons Names Coast Knives Rep.

JAMES MAWDESLEY, in charge of knife sales for John W. Bolton & Sons, Inc., and *BEN SPAULDING*, Portland, Ore., representative for Bolton, recently visited Seattle to appoint a new Washington state distributor for their patented, exclusive high-speed and regular quality paper trimming knives. Handling this line will be John Y. Scott Saw Co., at 705 Sixth Ave. S., Seattle.

New Pulp Records!

Woodpulp records were set in the U. S. in 1953.

Production was 17,565,391 tons, says U. S. Pulp Producers. The record—for 1951—had been 16,555,273 and dropped to 16,475,040 in 1952.

Consumption was 15,776,389 in 1953. The record had been 14,632,787.

PAUL COOPER—new leader of Canadian industry.

Paul Cooper Is New Chieftain of Canada Industry

Election to the chairmanship of the Canadian Pulp and Paper Association's executive committee marked another happy milestone in the success of Paul E. Cooper, president of Pacific Mills, but he experienced a few uneasy moments a day or so earlier when he telephoned from Montreal to his office in Vancouver.

He asked for a succession of executives. None was available, and most of them had gone home early, the switchboard operator told Mr. Cooper. Exasperated and beginning to wonder what had happened to his organization, Mr. Cooper asked the operator for an explanation.

Vancouver, along with other West Coast points, had been experiencing the worst snowfall in decades. Just about everyone was home, or trying to get there, to shovel snow.

Mr. Cooper, Ottawa-born, has been in the industry 30 years. He was with International Paper Co. originally. He went to England to become eventually an executive of Thames Board Mills. He was appointed president of Pacific Mills in 1941. He is a vice president of Elk Falls.

Vice chairmen of the association are P. M. Fox, president, St. Lawrence Corp., and E. M. Little, president, Anglo-Canadian Pulp & Paper Mills.

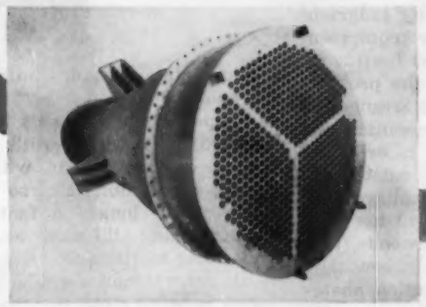
Nekoosa-EdwardsPaperCo. Increases Advertising 17%

Nekoosa-Edwards Paper Co. has increased its advertising budget for this year by 17%—largest expenditure for advertising in that prominent paper firm's history.

Explaining the increase, Tad Meyer, advertising and public relations manager, said: "It's generally agreed business may be harder to get this year. Our company is of the opinion that 1954 will be a strategic year for merchandisers."

TAD MEYER — Explains why his company increases advertising in 1954 to record amount.

Here's where costs go DOWN when *Carpenter* Stainless Tubing goes in



Black Liquor Evaporator

2-pass Heater Manifold

2-pass Kraft Heater

Greater freedom from corrosion problems...extended service life . . . lower maintenance costs . . . fewer "down-time" headaches are only some of the many reasons why it pays to install Carpenter Stainless Tubing in heaters, evaporators and other pulp and paper mill equipment you build or use. You'll find that Carpenter gives *more* than corrosion resistance —unexcelled adherence to specifications of finish, dimensions, analysis PLUS ease of fabrication and consistently uniform quality that keeps equipment on the line longer.

Uniform ductility and wall thickness make Carpenter Stainless unusually easy to roll-in—eliminating the retubing problems encountered when "run-of-mill" stainless is used.

There *is* a difference in stainless tubing—and Carpenter makes that difference. Why not let us help you keep production up—down-time down. For your next stainless tubing, call your Carpenter representative. Ask him for engineering and design help in solving your tough tubing problems. When you call Carpenter, you'll find that:

"One Call Does It All".

The Carpenter Steel Company, Alloy Tube Division, Union, N.J.
Branch Offices: Atlanta Chicago Pittsburgh Houston Newark San Francisco

Export Dept.: The Carpenter Steel Co., Port Washington, N.Y. "CARSTEELCO"

Carpenter

STAINLESS TUBING & PIPE

Analysis → Tolerance → Finish →

- guaranteed on every shipment

Engineering Requires Specialists

D. G. Boon
Consulting Engineer
J. E. Sirrine Co.

LOOKING BACK over 40 years or more of engineering experience in the pulp and paper industry indicates clearly that much greater demands are now made upon the consultant and his staff in the development of even minor details of design than during any other period, and there is the ever-present necessity of keeping abreast of the times in respect to process changes.

Today these demands cannot be met by a single individual but require the close cooperation of a team, each member a specialist in his own line—including chemical, mechanical, electrical, steam, structural, instrumentation, piping, architectural, civil, and construction management.

In the days of heavy load-bearing brick or masonry walls, the buildings were often sized by judgment in the hope that the equipment would fit therein. It has been a far cry from that time to the present-day design of structures arranged to fit requirements of all essentials and provide a minimum of labor effort.

Probably the most outstanding trends of the postwar era have been toward the obtaining of higher pulp yields, the use of hardwoods, new bleaching techniques, fiber and chemical recovery, pollution abatement, water flumes and storage for wood, the development of non-corrosive materials to meet exacting demands of the new processes; and the more general use of precise instrumentation and controls with graphic panels.

D. G. MOON, Consultant and head of J. E. Sirrine Co. pulp and paper division.

Paper machine speeds have continued to go higher with advancement of their design with pickup rolls, accelerators, etc., so that 2000 fpm is no longer a fantasy, and necessitating still more accuracy in the drive mechanism.

In general more consideration than ever is being given to proper ventilation, vapor exhaust, lighting, safety and employes facilities, as well as in architectural treatment and color dynamics, to the effect that the mills of today are more pleasing to the eye and offer an incentive toward good housekeeping and maintenance.

PORTRAIT OF A LEADING PAPERMAKING FAMILY

AN UNUSUAL PICTURE of the Robertson family—taken at dedication of Camp Hope Recreation Grounds near the Champion Paper & Fibre Co. Mill at Canton, N. C. In framed picture above group is HOPE THOMSON ROBERTSON. Daughter of PETER C. THOMSON, founder of Champion, she devoted many years to promoting health and educational opportunity for youth of Western Carolina, as the plate on wall states. "As a token of appreciation" the grounds were named Camp Hope. L to r are MRS. HOPE BORBURN, REUBEN B. ROBERTSON, Chairman of Champion and past APPA President; MRS. ROBERTSON, DR. LOGAN ROBERTSON, M.D., and REUBEN B. ROBERTSON, JR., of Hamilton, O., President of Champion. (Photo by Asheville, N. C., Citizen-Times).

D. G. Moon Reached South Via Britain and Indies

D. G. Moon is consultant and head of the pulp and paper division of J. E. Sirrine Co., well known engineering concern of Greenville, S. C. He received his education in England, being a graduate of the City of London Technical Institute.

Mr. Moon's initial experience was on railroad and hydro-electric design and construction in this country, Latin America and abroad. During World War I, Mr. Moon served overseas with the 122nd Engineers, with the rank of Major.

For many years Mr. Moon was chief engineer for Continental Paper Bag Corp., with supervision of their seven pulp and paper mills in Canada and this country; and later was manager of manufacturing for this division with International Paper.

Entering private practice as a consultant to the industry in 1930, Mr. Moon foresaw the opportunity offered by the South for the development of pulp and paper and helped materially in locating the Union Bag mill at Savannah and its initial phases. This mill was forerunner of a major expansion in the South.

During World War II, Mr. Moon represented J. E. Sirrine Co., as a consultant to the Netherlands East Indies in the Far East until occupation of the islands, and later represented this firm as project engineer on shipyard construction, as well as on special projects for paper, packaging, etc., required for the war effort.

Since forming an association with Sirrine Co. in 1940, Mr. Moon has been active in engineering and design of some larger and new modern mills such as Hudson Pulp & Paper Corp., Southern Paperboard Corp., Coosa River Newsprint Co., and Riegel Carolina Corp.; and at present is engaged in engineering of new mills for Buckeye Cellulose and Bowaters Southern Corp.

Million-Pound C-E Recovery Unit begins service at Longview Fibre Company

A major addition to Longview Fibre Company's continuing expansion program — its second C-E Recovery Unit and one of the world's largest—began operation in November 1953.

Housed in a seven-story-high building, the new unit is designed to burn 1,050,000 pounds of black liquor solids per day, and to produce 165,000 pounds of steam per hour at 850 psi and 750 F.

The availability of this new equipment made it possible to effect urgently needed repairs on the stack that served other recovery units of the mill. The new unit was called upon to operate at well above its rated capacity during this period. This it did with complete satisfaction carrying the load of five of the six paper machines.

In reordering C-E recovery equipment the Longview Fibre Company but adds its name to the growing list of companies which have done so. So far, fourteen leading pulp and paper manufacturers have ordered a C-E Recovery Unit at least twice, two of them on three occasions and three companies have ordered four times. This record, we believe, speaks for itself. B-730

C-E

COMBUSTION ENGINEERING, Inc.

Combustion Engineering Building, 200 Madison Avenue, New York 16, N. Y.

BOILERS, FUEL BURNING & RELATED EQUIPMENT; PULVERIZERS, AIR SEPARATORS & FLASH DRYING SYSTEMS; PRESSURE VESSELS; AUTOMATIC WATER HEATERS; SOIL PIPE

More Check Valves, Kickout Switches Smooth Weyerhaeuser Operation

BRAVING ICE AND SNOW, unusual for mild Puget Sound, over 200 attended a Pacific Tappi Section meeting at Everett, Wash., Jan. 19 to hear a varied program on "General Mill Problems."

Everett comprises one of the most concentrated pulp and paper production centers in the west, with four bustling plants, all hosts for this winter conclave. They are Everett Pulp & Paper Co., div. of Simpson Logging Co., which recently was completely modernized; Scott Paper Co., Soundview div., site of one newly installed paper machine and of another scheduled for 1954; and Weyerhaeuser Timber Co., with the older "A" sulfite mill and the brand-new bleached kraft mill, featured in Jan. PULP & PAPER (pages 58-77).

Dr. Loren Forman, Scott technical director in Everett, was moderator. He was with the Institute of Paper Chemistry before joining Scott.

As an interesting follow-up to the article mentioned, Kenneth Chapman, Weyerhaeuser, reported on its "Startup Problems." He treated the situation in three phases:

1. *PERSONNEL.* "Seemingly quite severe before the startup, the personnel problems have ironed out very well, and the mill now has a good crew working smoothly together. Of four supervisors (he is one), all had been with Weyerhaeuser some time, three had previous kraft experience, while the fourth had worked through all positions in Everett sulfite mill," he said. "Cooks and others were experienced in kraft."

Bleaching, the top job at this mill, was a hard place to fill due to the fact that WTCo had recently expanded at Longview, Wash. "With a new type of pulp and new, strange equipment (to them), the men chosen did an outstanding job. Liquor-making started so smoothly we hardly noticed it although crews were green. Power and recovery men and machine room crews were all experienced, fitted into their work easily and efficiently."

2. *EQUIPMENT.* Some of the changes necessary were installations such as additions of check valves, piping, pipes, etc. There was pulsating trouble with rubber flex or pinch valves in stock discharge from blow tank and on control of bleach liquor and green liquor flows. Kickout switches have improved the long series of chip conveyors.

3. *OPERATION.* "Calculations very early put us on the right track as to digester charges, both for chips and liquor. It soon became apparent how many chip feeders to use and how much to open the feeder slices by the way the belt handled the chips and the length of time to fill.

"Operation of washers is a matter of experience with each set-up a little different. Big problem was to get right flows of stock, dilution and showers and this went right back to the valves and instrumentation. Getting proper valve settings on instrument dials to match actual settings on valves below was a problem."

Use of Plastics Increasing

Use of plastic materials where they will do better than anything else was recommended by Dr. Raymond B. Seymour, executive vice president and technical director of the Atlas Mineral Products Co., Mertztown, Pa. Dr. Seymour is a chemical researcher, held high positions with Goodyear, Monsanto, and Johnson & Johnson; has many patents.

SHARING SPOTLIGHT at Everett, Wash., Jan. 19, session of Pacific Tappi Section, were (l to r): FRANK CASKEY, Crown Zellerbach, Camas, Wash.; LOREN FORMAN, Scott, Moderator; ED NUNN, C-Z, West Linn, Ore., Vice Chairman; JAMES d'A. CLARK, Consultant, Longview, Wash.; KENNETH CHAPMAN, Weyerhaeuser kraft pulp mill, Everett, Wash.; and RAYMOND B. SEYMOUR, Atlas Mineral Prod., Mertztown, Pa.

Dr. Seymour said that chlorinated rubber and vinyl, for instance, can solve a lot of coating problems, and told how neoprene coating is put to use.

His slides showed rapidly growing uses of plastics in construction of stacks, ducts and fans in exhaust systems. He said plastics are getting better as well as more popular.

"Strength Development through Stock Refining as Influenced by Certain Variables" was discussed by Frank E. Caskey of Crown Zellerbach's research laboratory at Camas, Wash. Mr. Caskey's summary of optimum conditions was as follows:

1. Tackle—3/16 to 1/4 in.
2. Contact pressure between stator and rotor bars—8 psi.
3. Mechanical equipment—in best possible condition.
4. Stock consistency—as high as possible (5%).

Dr. James d'A. Clark, Longview, Wash., consultant, followed on the same subject as Mr. Caskey by discussing "Mill Control of Beating and Refining." Dr. Clark's lucid paper provoked a fair amount of additional comment, and could have kept comment flying back and forth until dawn.

Dr. Clark "examined" a coniferous fiber, as if through a pair of magic spectacles having a magnification of 2540 times. He described the beating action and beating effects on the fibers and beating control. He listed more applicable currency available tests for the changes caused by beating: 1. Cutting; 2. splitting; 3. bruising—a. shrinkage, b. burst, c. drainage time, d. freeness.

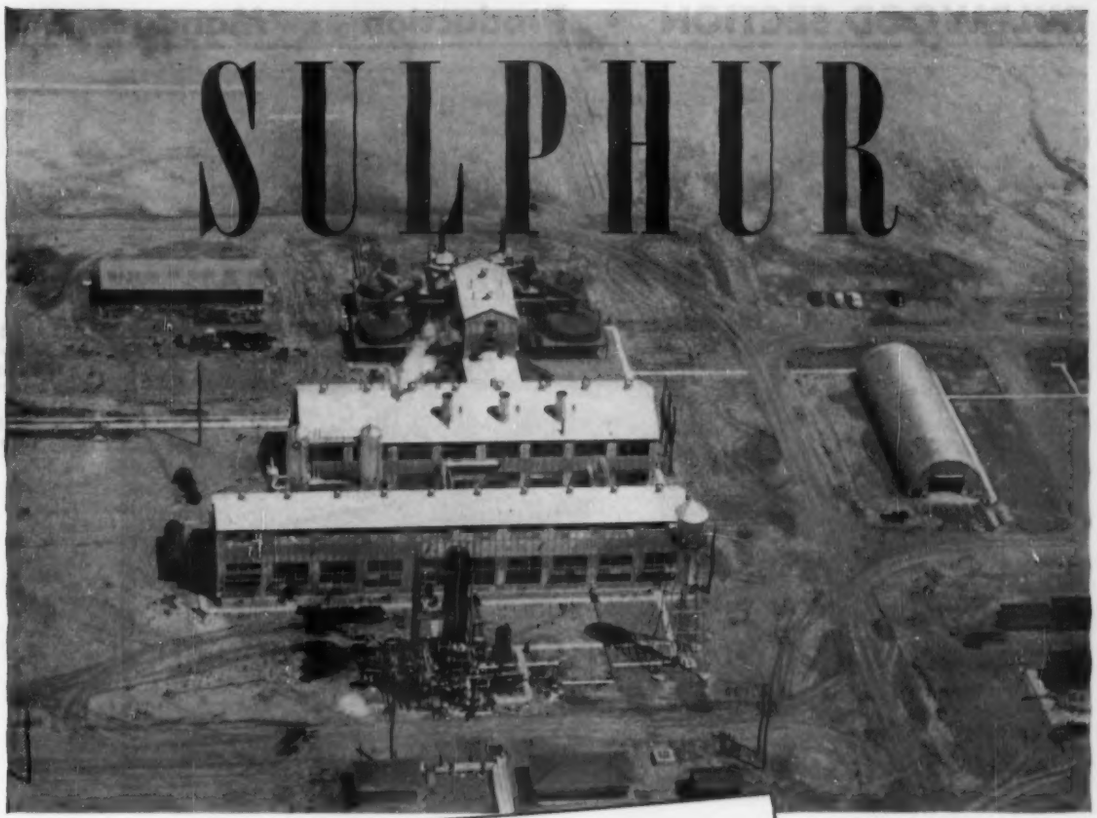
He said "with a little organization these four tests may be made concurrently in less than 15 minutes (versus 12 minutes for the freeness test alone). They will provide reliable, understandable information about the stock and the manner in which it has been beaten and will most advantageously replace illusory measurement of that popular, abstract, imponderable attribute of beaten stock, called 'hydration.' "

Lindsay Marks 50th

Lindsay Wire Weaving Co. employes and guests, 600 in all, celebrated the company's 50th year with a dinner dance at the Hotel Statler in Cleveland. Master of ceremonies was Robert H. Crossman, vice president, and principal speaker was Fred L. Crossman, president.

M&O HOSTS APA DELEGATES

AMONG THE 40 who attended the two-day technical session of American Pulpwood Assn. at International Falls were (from left) WILLIAM MACCONNACHIE, Northwest Paper Co.; E. E. LAITALA, assistant woods manager, Minnesota and Ontario Paper Co.; NEIL MCKENNA, North Star Timber Co.; HAROLD KERRY, assistant timber buyer for M&O; and L. A. KENDALL, independent logging contractor. M&O was host to the delegates, who in addition to visiting timber operations also visited the company's manufacturing plants.



Sour Gas (H_2S) Sulphur Recovery Plant, Worland, Wyoming.

Sour Gas...

...an increasingly important source

The largest elemental sulphur producing area in the world today is a narrow belt along the Coast of the Gulf of Mexico. Large quantities of elemental sulphur lie in natural beds in Japan, Italy, the Andes Mountains of South America, as well as many other sections of the world.

Most of the natural gas coming from fields on the East slope of the Rocky Mountains contains hydrogen sulphide rendering the gas "sour." The recovery of the sulphur from this gas, thereby purifying it, is a feat of chemical engineering.

Both metallurgy and chemistry combine in Canada, Norway, Sweden, Spain, Portugal, Germany, Great Britain, Holland and Egypt to produce substantial quantities of elemental sulphur from sulphides of hydrogen, iron and oil shale.

This company has the largest single unit in the world at Worland, Wyoming, recovering elemental sulphur from hydrogen sulphide contained in sour gas.

Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.

Sulphur Producing Units

- NEWGULF, TEXAS
- MOSS BLUFF, TEXAS
- SPINDLETOP, TEXAS
- WORLAND, WYOMING

LOGS ARE TOWED in by small boat to the loading area and are taken by jackladder to the barge deck. Barge load totals about 175 cords in this St. Regis logging operation off Maine coast.

Logging Is a Seagoing Business

. . . off the Coast of Maine

Improve Virgin Stands On New England Isles

ISLAND PULPWOOD logging off the coast of Maine, combined with an experiment in selective cutting in cooperation with the New England Forestry Foundation, has resulted in an interesting and profitable operation for St. Regis Paper Co., Bucksport, Me. Logging of islands for pulpwood has contributed substantially to requirements of the Bucksport mill and the contract arrangement with the Foundation has opened up for selective logging some of the last remaining stands of virgin timber in the Northeast.

The Bucksport mill is located on tidewater near the mouth of the Penobscot River. The woodland area on the mainland from which the mill draws its principal supply is roughly in the shape of a triangle—extending 75 miles north to Danforth on one leg; then south 75 miles to Machias on a second leg; and west to Bucksport about 60 miles on the third.

Island logging for Bucksport extends along the Maine coast all the way from the mouth of the Kennebec River, about 75 miles southwest, to the mouth of the St. Croix, which defines the boundary between Maine and New Brunswick, some 100 miles to the northeast. Barges transport pulpwood from this coastal area, both from the islands and a number of mainland points.

Integrated for Lumber and Pulp

St. Regis has practiced integrated logging in this area many years and is continuing log drives on the Machias which have been going on nearly 200 years.

Long logs can be driven down the Machias almost 60 miles, and since the river extends into the heart of the St. Regis woodlands triangle of some 140,000 acres, it has continued to be used for this purpose. An integrated operation involves a permanent sawmill at Whitneyville, near the mouth of the Machias, where there is a dry kiln for lumber, a drum barker for pulpwood, and railroad sidings that can be used for transportation of pulpwood to Bucksport, and to ship out finished lumber products.

Logs are cut for river driving to 12- and 16-ft. lengths, and come down to Whitneyville during the spring freshets. There separation is made of logs to go to the sawmill and the pulp logs selected are slashed to 4-ft. lengths and conveyed to the drum barker.

Floating Logging Camps Work

Barging of pulpwood to Bucksport has been going on for some time, according to Floyd M. Crocker, woodlands manager for the St. Regis mill. The operation is of such size that 5 to 10% of the entire pulpwood requirements of the mill comes in by barge.

There are six barges working the Maine coast from the Kennebec to

Continued on page 80

PORTABLE JACKLADDERS such as this, in operation at the Lakehead in Ontario, are proving efficient and economical for loading big carriers for Lake States and Canadian mills.

. . . and at the Lakehead in Ontario

Improvement in Canada Is in its New Loaders

SEVERAL NEW TYPES of marine jackladders for loading pulpwood have been developed on Lake Superior, especially in the Fort William-Port Arthur area of Ontario. Hundreds of thousands of cords of wood are loaded here for Michigan and Wisconsin mills.

The loaders vary in design, rate of production and size, but basically the principle remains the same. The marine jackladder is designed to move pulpwood from the water surface into ship or barge. It is simply an adjustable, powered conveyor chain, installed on a scow or small barge. In a sense it is portable, for it may be towed by small tugs from place to place.

The loader is brought to the side of a vessel and moored with two winch cables, fore and aft. The ship's winches may then move the loader in either direction along the length of the vessel at the appropriate signal.

The scow rides alongside the vessel by means of elongated bumpers, which are fitted with a heavy steel roller on the ship end and permit easier movement against the ship side. A heavy coil spring is fitted with chains on the other end and acts as a shock absorber. These bumpers are also adjustable in and out to allow the loader to be brought closer to the vessel or moved out from it, depending on the ship's width.

A raft of pulpwood (average size, 45 booms each 22 ft. long, or about 300 cords) is then towed to the loader, and opened up by removal of a connecting chain. One end is made fast to the scow, the other brought between the vessel and the loader and lugged with a chain. Thus, as the raft gets smaller, the "slack" boom may be pulled out with a boat or winch. In this way, the raft is kept tight and will keep the wood closer to the bottom of the jackladder.

On either side of the jackladder or trough, and attached with chains, is a float. The crew of "feeders" is stationed on these floats and, using pike-poles, assist or feed the wood onto the conveyor chain. The wood is caught on the chain by inverted sharpened "dogs" and carried up the trough. When the sticks reach the top, they then drop into the vessel. An additional crew of "stowers" is stationed in the vessel, to pile wood neatly in rows.

As each hatch or area on a barge or ship gets a load, the loader is moved alongside the vessel to the next one. When it has completed one journey around the ship or from one end to the other of a barge, it is moved back to the starting point again. When it arrives there, the stowers have piled all the wood loaded and the loader then begins another trip alongside the vessel. This continues until the vessel is loaded. This load would vary from

Continued on page 84

Seagoing Logging . . . off Coast of Maine

Continued from page 78

the St. Croix, about 175 miles. Each barge will handle around 175 cords. The operation must be confined to summer months and into the fall to the time the weather closes down activity. Barges are pulled by tug to Bucksport, and a new tug is now being built, the *David*, which is 65 ft. long and 18 ft. across the beam. The boat is owned by Capt. Elmer Closson, who has handled this work for St. Regis for some time.

Barging crews are housed in a "floating woods camp." This is a barge on which are a bunk house and cook shack, which can be towed to locations.

In barge loading, logs are taken from shoreside, whence they are delivered by horses, and are rolled into the water and boomed. Booms are towed out to the barge anchorage, and logs conveyed by jackladder from water to barge deck. The crew hand-stacks the wood, and the barge is then towed to Bucksport.

Other equipment used in the offshore operation includes one 30 ft. and two 24 ft. motorboats which can be used in either salt or fresh water. These boats taxi supervisors and loggers from mainland to island, and island to island. They can be placed on trailers and taken to points of need.

There are many hundreds of wooded islands off the coast of Maine containing timber suitable for sawlogs or pulpwood. Some owned by St. Regis or in hands of private owners have been logged for years. But many are owned by large estates, or non-resident wealthy owners not interested in income from sale of timber.

COOKHOUSE AND BUNKHOUSE GO TO SEA

"HOTEL OCEAN TOP VIEW" is the name St. Regis woodlands men have given their floating woods camp. Quarters and food here are comparable to typical woods camp.

These islands contain what approximate the last remaining stands of virgin timber in the Northeast, and it is estimated that probably as much as 100,000 cords of pulpwood could be harvested immediately from the area in careful cutting without damaging the appearance of the islands.

It is at this point where St. Regis has worked out a cooperative plan with the New England Forestry Foundation. This Foundation has sought for several years to get the small private owner and absentee owner to put their forest land under management. Progress has been made in accomplishing this. The Foundation had such a contract with Boston owners for a group of six islands lying off the Maine coast near Jonesboro and a few miles from Machias.

Purpose of the Foundation in management of the islands was to allow cutting to keep down fire hazards; provide shelter for new reproduction and permit growth of suppressed trees, without disturbing appearance of the islands from offshore or from mainland. Selection was on this basis rather than on size. Rather than taking out all mature trees, the idea was just to take out enough to let light into the stand to permit suppressed-tree growth—many of which had grown only a few inches in the last 40 years.

With this in mind, the Foundation developed a contract satisfactory to St. Regis for logging 4,000 cords of

MAINE ISLANDS COULD BE BIG PRODUCERS

PEELED PULPWOOD ready for barging to St. Regis mill from Rogue Island off the coast of Maine. Four thousand cords have been taken from this 1300-acre island.

BELIEVE IT OR NOT, THAT ISLAND'S BEEN LOGGED

ALTHOUGH THE FOREST on the island behind this Maine lobster fisherman seems untouched, actually it has yielded several thousand cords of pulpwood for the St. Regis paper mill at Bucksport.

Are You Still Paying The Cost of Track-Type Equipment?

• Now is the time to weigh the advantages of being able to put a Crane anywhere as against the use of track-type equipment. Your Northwest Crawler is not confined to tracks. It allows you to utilize your storage areas to the fullest advantage. It reaches *every part* of your yard! It can unload a complete train without delays in switching, or an extra line of track. It will work alongside cars, from the end, or it will travel through drop-end gondolas or over flats from car to car, unloading as it goes.

If the pulp yard doesn't keep the rig busy it can handle anything from lime to rolls and cases. Use it at the receiving platform, the loading dock or the power plant. Such features as the "Feather-Touch" Clutch Control, Uniform Pressure Swing Clutches, Simplicity of Design, Boom Hoist Equipment for every problem and many other Northwest advantages reduce costs and increase output. If you are paying the costs of track equipment, think about modernizing with a Northwest. Many of the largest mills are using them.

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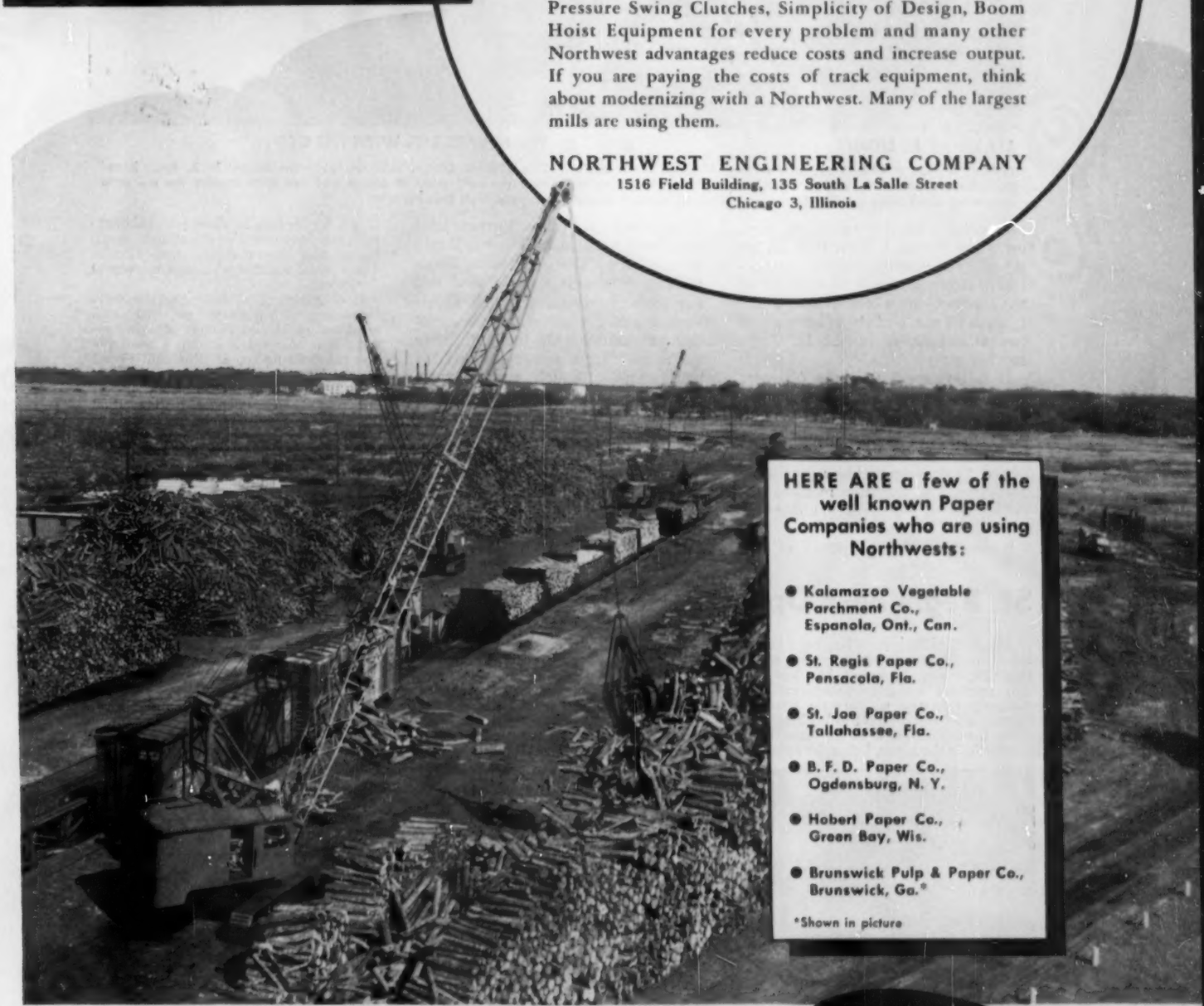

HERE ARE a few of the well known Paper Companies who are using Northwests:

- Kalamazoo Vegetable Parchment Co., Espanola, Ont., Can.
- St. Regis Paper Co., Pensacola, Fla.
- St. Joe Paper Co., Tallahassee, Fla.
- B. F. D. Paper Co., Ogdensburg, N. Y.
- Hobert Paper Co., Green Bay, Wis.
- Brunswick Pulp & Paper Co., Brunswick, Ga.*

*Shown in picture

NORTHWEST

The Crane That Goes Anywhere

10 to 50 TONS

LET THERE BE LIGHT!

TYPICAL ROGUE ISLAND stand after cutting. Although forest retains its natural appearance, enough light has been let in to stimulate growth of small trees on this 1300-acre island off coast of Maine.

THE NEW TEAMS WITH THE OLD

THIS STRUNK CHAIN SAW represents the newest in St. Regis island operations off coast of Maine and the horse typifies the old form of woodlands transportation.

pulpwood from Rogue Island, work on which began in May, 1953. In the actual operation the Foundation foresters (from one to three working on the project at a time) mark the trees to be cut, and try to keep about two weeks ahead of the St. Regis logging crews.

It is estimated that the foresters actually marked about one-third of the trees by volume and less than one-quarter by number. But the selection was carried on in such manner as to make possible a profitable operation. The foresters marked between 100 to 200 cords per day per man.

Success of the purposes of the owners and the Foundation management was verified by PULP & PAPER on a visit to the operations. From offshore it was impossible to detect any signs of cutting, with natural appearance of the island and its forest being maintained. On the land, there were no large accumulations of brush, and although stumps were visible, of course, these would disappear in a relatively short time. Because of the nature of selection—mature trees being left to stand—the forest seemed close to its virgin state. It was hard to appreciate the substantial cordage of pulpwood that had been removed from these islands.

St. Regis Sets Up Mobile Radio System

A mobile radio system has been established for the woodlands operation of St. Regis Paper Co., Bucksport, Me. The system provides communications for the company covering a 200-mile triangle, extending from Bucksport to Whitneyville along the Maine coast as the base, with Danforth, in the north, being the apex.

There are six mobile car units in the system, so that Floyd Crocker, woodlands manager for St. Regis at Bucksport, can keep in touch with activities throughout the area. In addition to an installation in Mr. Crocker's car, other units are with Berle Farrington, trucking superintendent; a repair truck stationed in Bucksport; Byron McPheters, in charge at Whitneyville and Machias; Donald Moffat, woods buyer and fire marshal; and Charles Tracy, chief forester who headquarters at Bucksport.

Base station is at Bucksport on 4946 frequency, with a second stationary unit in offices of Mr. McPheters at Whitneyville. It is planned to set up a receiving and transmitting set at Blue Hill Forest Service fire station to work in conjunction with the Forest Service during critical fire periods. Experiences during 1952 when three fires broke out in the area at the same time showed the need for supplementing the State channel service.

WOODS MANAGER TALKS TO AREA MANAGER

MOBILE RADIO from FLOYD CROCKER, Woodlands Manager for St. Regis in Maine, to BYRON McPHETERS, Manager of Whitneyville and Machias area operations of St. Regis.

South Pine Prices

Rough pine pulpwood, which now sells for $13.75 a cord f.o.b. railroad cars in the Southeast, brought only $7.15 ten years ago and only $3.55 fifteen years ago. These prices and others in the table below are averages based on reports from seven representative paper mills that purchase half the pine pulpwood produced in Virginia, North Carolina, South Carolina, Georgia, and Florida, according to A. S. Todd, Jr., Southeast Forest Experiment Station.

Price Per Cord of 5 ft. Wood with Bark

Year	*Rail wood*	*All wood*
1938	$ 3.55	$ 3.60
1942	5.90	6.00
1945	8.35	8.45
1948	11.65	11.70
1951	13.65	13.85
1952	13.70	13.90

Price includes dealer's allowance. Rail wood is f.o.b. railroad car. Third column is weighted average of all wood loaded on RR. cars, delivered to barge landings, trucked to mills.

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It's BIG NEWS . . . the NEW American 750 . . . 35 ton capacity crane . . . 1½ yard rock shovel and backhoe . . . 2 yards as a clamshell or dragline. *It's the machine you helped build by telling us exactly what you wanted!* Ask your distributor or write direct for complete details on the great new American 750.

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Company _____

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PP-3-54

Seagoing Logging . . . at the Lakehead in Ontario

Continued from page 79

1,500 to 2,500 cords, according to Roy Styffe, secretary of Oscar Styffe, Ltd., Port Arthur pulpwood contractors, who furnished PULP & PAPER with this information.

New Loader Speeds Operation

The loading rate would average, depending on type, size and species of wood, about 50 cords per hour. A vessel could be loaded in 30 to 50 hours. In a working day of 8 hours, about 400 cords may be loaded.

A Link-Belt conveyor chain, with H-74 and K-1 links, is powered by a 49 hp, 1500 rpm, heavy duty Minneapolis Moline gasoline winch and power unit. Power is more than ample, according to Mr. Styffe; the unit seldom labors. Fuel consumption is low—about 12 gals. per day. A new, larger loader built within the past year will load about 800 cords in one day. It has two power units. The conveyor is powered by a Caterpillar diesel with 65 hp belt drive, with a triple drum winch powered by a D-4 Cat diesel.

The loading trough is adjustable up and down by hand winches installed between the A frame which is stationary. The trough has a permanent bearing or fulcrum at the bottom end. The top end is free between the A frame and is raised or lowered by means of the hand winches.

When the scow is under a long tow the trough is in the down position and must be raised again to the loading position. The trough may also be adjusted according to height and width of the vessel. At top of the trough is an adjustable apron which helps direct wood as it drops from the trough. At each end of the trough are sprockets on which the conveyor chain rides and is driven. The top sprocket assembly carries the power transferred from the engine by single drive chains. Thus the conveyor chain is pulled up the jackladder and not driven or pushed from center or bottom.

This chain consists of four endless steel link belts joined at 28 in. intervals at right angles with flat steel cross bars. The dogs previously mentioned are riveted to these bars.

Since being rebuilt, this loader has loaded 38 vessels or about 75,000 cords of pulpwood, with only one major breakdown. Operating costs are considered extremely low, consisting of gas, oil, minor repairs, fit-out, depreciation. An engineer isn't necessary and the machine is operated by the workers themselves. Here are some dimensions: Scow, 48 x 24 ft.; trough, 50 in. wide, 20 in. deep, 60 ft. long; A frame, 22 ft. high.

THIS BARGE BOUND FOR U.S. LOADS ANOTHER WAY

CRANE AND BASKET are used in this operation to load pulpwood. The vessel illustrated is a self-loading barge carrying about 1900 cords of wood. The harbor is Port Arthur, Ont.

Pulpwood Handling Expert Advances in Thew Co.

E. E. Esgate, elected a vice president of The Thew Shovel Co., Lorain, O., has been active in development of pulpwood handling methods.

Born in 1910 at Coeur d'Alene, Idaho, he was educated in Idaho and Washington schools and worked in forest industries in the Pacific Northwest. From 1938-1941 he served as assistant to the administrator of the New England Hurricane Project in salvage of 600 million feet of logs.

ESGATE ELECTED VICE PRES. OF THEW SHOVEL CO.

E. E. ESGATE, elected Vice Pres. of Thew Shovel Co., Lorain, O. He has been active in developing equipment for pulp and paper.

During World War II Mr. Esgate served with the Corps of Engineers as a civilian and as an officer here and in Europe.

From 1947 to 1949 he was active in development of equipment and methods of operation for the handling of pulpwood in the pulp and paper industry. During this period he served as engineer for the industry association and also as an independent consultant. Mr. Esgate joined Thew in 1949.

EVERY FAMILY OF FIVE in the United States uses an average of one ton of paper per year.

SEABOARD SPONSORS FORESTRY DEMONSTRATION

FORESTRY DEMONSTRATION at Starke, Fla., sponsored by Seaboard Air Line Railroad Co., attracted 550 persons interested in the program of timber improvement, barking techniques, sawing and mechanical tree planting. Among those taking part were (from left) DOYLE E. CONNOR, Florida State representative; R. N. HOSKINS, Seaboard industrial forester; V. R. FERGUSON, vocational agriculture instructor; and G. T. HUGGINS, area county agent.

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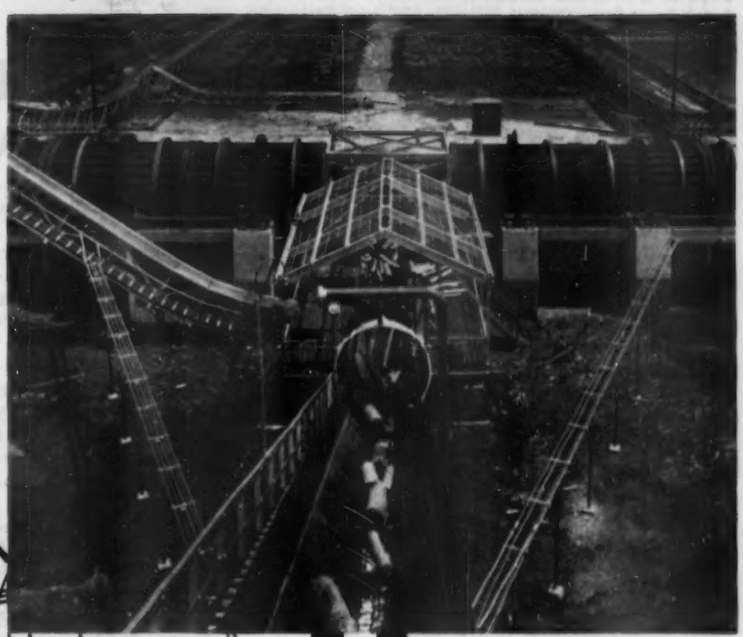
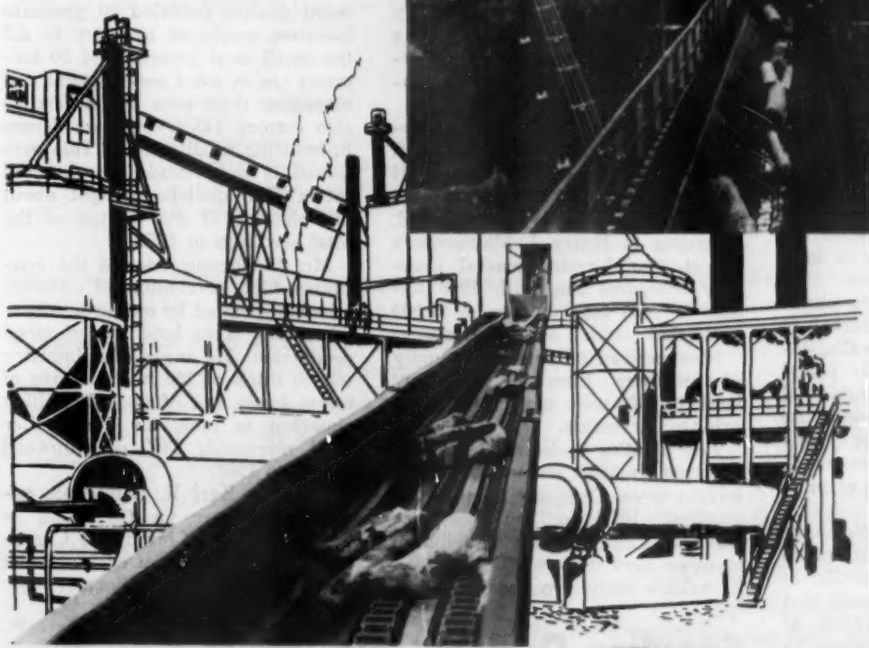
from pulpwood to paper

Look to Jeffrey for the latest improvements in material handling —whether for logs, pulpwood or finished product.

When it comes to feeding, crushing, shredding, conveying or elevating—Jeffrey has both the experience and equipment to help step up production in pulp and paper mills.





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PERSONALITIES SNAPPED BY PULP & PAPER CAMERA AT SPCA MEETINGS

(L to r) GLEN CLARADY, Champion Paper & Fibre, Pasadena, Tex., HENRY J. MALSBERGER of SPCA, ERNIE ALLEN, Union Bag & Paper Corp.; R. L. FITTS and WILBUR C. McDONALD of Southern Advance Bag & Paper Corp.; CHARLIE GILLETTE, AFPI, and WILLIAM BROWNE, Camp Mfg. Co.; WILLIAM MOORADIAN (left) and LEO MOORADIAN (right), pulpwood dealers of Hopeville, Ga., with GORDON BLACKWELL, Southern Kraft Div., I. P., wage-hour advisor to pulpwood dealers.

South Presses for More Small Lots Output And Also More Wood from National Forests

MILITANT POLICIES in respect to publicly related forest problems will mark 1954 if plans made at Southern Pulpwood Conservation Association annual meeting at Atlanta's Biltmore Hotel are put into effect. This will be done:

1. Individual mills will more closely identify themselves with conservation work performed for small land owners.

2. Pressure will be exerted to bring greater pulpwood volumes from nearby national forests.

3. Youth activities — thoroughly proven in FFA, 4-H Clubs, boys' summer forestry camps—will be turned on full-scale among negroes, who constitute one-third the South's population and are in intimate contact with the forest.

Keynoting this attitude, the president of SPCA, C. H. Niederhof of West Virginia Pulp & Paper Co., declared industry is justifiably proud of its leadership in the industrial forest conservation movement in the South. "Those who have commended our forest conservation efforts are staunch advocates of public regulation," he said.

Said Mr. Niederhof: "We have from the start and will continue to accept our share of responsibility in promoting forestry practices that will enhance continued growth of this industry, which has come to mean so much to the economic and social welfare of the South."

Forest surveys were lauded as of great value and needful of more dollar allocation by the U. S. Forest Service.

Mr. Niederhof thought the association should expand its "let-the-public-know" work through radio, television, newspapers, etc. However, the picture presented should be "right."

Mr. Niederhof said some members of the Southern pulp and paper industry were "still not sincere in carrying their share of the conservation effort."

In urging extension of a full educational program to the negroes, Mr. Niederhof said the vast majority live in or near forests and have a greater economic stake in forest resources than do their white neighbors.

Marking of woodlands for selective cuttings under the association program during 1953 reached 6,694 land owners of 377,800 acres that yielded 861,000 cords of pulpwood, according to Henry J. Malsberger's report. The forester-general manager compares this with 1948 figures of 1035 land owners of 90,000 acres that yielded 300,000 cords.

Nine percent of pulpwood supply of members from non-company lands in 1953 were marked by them prior to harvesting.

Tree planting under the industry's program in 1953 amounted to 128 million trees. Company owned land received 101.5 million seedlings while 26.5 million were contributed to other land owners. Of the total, 23 million were produced in company owned nurseries.

Graduate foresters employed by the Southern industry reached a total of 753. Of the total, 126 were conservation foresters. Additionally, 95 non-technically trained woodsmen assist in work with small owners.

Incomplete canvassing of pulpwood dealers revealed 29 graduate foresters employed by them to aid the small land owners, and 60 foresters are in wood procurement and managing their own lands. Dealers also employ 145 trained woodsmen in assisting small owners. This personnel is not included in the mill totals. The dealers brought about the planting of 3¼ million of the total seedlings in 1953.

Mr. Malsberger decried the continued high percentage of cuttings, whether dictated by owner or otherwise, that takes land out of wood production. He urged the industry not to think of 185 million acres of forest lands, but of the 103 million classified as pine, for the smaller total represents 88% of pulpwood source in 1952.

Read for Karl R. Bendetsen, assistant manager for Champion in Texas, by Glen Clarady, of Champion, was an excellent evaluation of functions of public relations.

Speaker Derides "Smugness"

DOUBLE-BARRELED warning not to rely on all-forest figures but to regard the growth deficit of pine and to get maximum production on company owned lands was voiced by W. J. Bailey, vice president, West Virginia Pulp & Paper Co.

Deriding any "smugness" with regard to forest balance in the industry's supply area, Mr. Bailey urged all to be realistic and "not deceive ourselves or others" by coloring the reports of conditions as they are found, such as ignoring an important deficit in the growth of pine, which is in heavy demand, by quoting figures which show that, for all timber, the forest is in balance.

". . . helping to keep the business cycle on an even keel . . ."

HARRY B. HIGGINS
President, Pittsburgh Plate Glass Company

"The employees of Pittsburgh Plate Glass Company since 1946, have purchased $9,488,510 in United States Savings Bonds through the Payroll Savings Plan. This accumulation of assets will be of inestimable value in helping to keep the business cycle on an even keel by maintaining purchasing power for the future."

Payroll Savings—the plan that protects—pays the employer *triple* benefits:

- it makes a good employee a better one—a serious saver with a definite plan for personal security.
- as enrollment on the plan goes to 60%, 70% employee participation, productivity increases, absenteeism decreases and accident records go down.
- and as Mr. Higgins points out, the systematic purchase of Defense Bonds through the Payroll Savings Plan is building a tremendous reserve of purchasing power.

Let's point up the third employer benefit with a few figures:

- On September 30, 1951, individuals held Series E Bonds totaling $34.6 Billion—more than $4.6 greater than on V-J Day.
- During the five calendar years (1946-1950) Defense Bonds sales provided:

—*Cash* to retire $3 Billion A-D Savings Bonds (maturing Series).

—*Cash* to meet $24 Billion redemptions of E, F and G Bonds.

—$6 Billion (after providing cash for the payments enumerated above) that the U.S. Treasury could use to pay off bank-held debt.

And the figures are getting better every day—between January 1, 1951 and November 1, 1951, 1,200,000 employed men and women joined the Payroll Savings Plan.

If the employee participation on your Payroll Savings Plan is less than 60%, phone, wire or write to Savings Bond Division, U.S. Treasury Department, Suite 700, Washington Building, Washington, D.C. Your State Director will be glad to show you how you can participate in the triple benefits of the Payroll Savings Plan.

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PULP & PAPER

"Our trade and service associations must be fearless in reporting facts, good or bad, to the members, and to the public, or the timber supply will continue to become more critical through wasteful practices and unwarranted expansion," he said.

"The cost of doing business in the South is weighted heavily as the companies find it necessary to expand their land holdings to increase the control of raw material supply.

"The rate of return must be based upon total investment values of plant and timberlands, and timberlands should be expected to carry their weight as a separate enterprise or they will impose a serious burden of subsidy on the manufacturing unit.

"This calls for sound forest economy and good forest management and protection.

"What are we doing to advance the potentialities that might result from major programs devoted to the cause of putting every acre in maximum production, converting marginal lands into better lands, and converting hardwood and pine-hardwood lands into pine lands, or at least into better hardwood lands?

"We can run out of dollars as we are sure to run out of availability of land as we bid against each other for the remaining stands of timber or land to grow it on.

"These dollars might prove to be more effectively invested in improving the lands we already own, so that a company owning 300,000 acres might better spend its supply dollars to grow 50% more timber on those acres than to buy 150,000 more acres at inflationary prices.

"Put every acre to work—that's good, practical forest management—make every acre work harder—that's applied research—make every acre grow better trees faster—that's basic research!

"We should be developing techniques and consumer acceptance for the manufacture and utilization of products of hardwoods—50% of the acres now needed would provide total wood supply if we could use the wood in the proportions that it grows in our Southern forests."

Pulpwood concentration yards, backed by sound conservation policies, were called "show windows" where producers, landowners, and local business men are impressed with the part they play in the operation of the distant pulp mill. Their establishment has created large new supply in smaller sales units.

Mr. Bailey urged that national forests supply a greater amount of pulpwood; and greater advertisement of the work done in conservation by the industry.

PARTICIPANTS AT SPCA MEETINGS

(L to r) R. V. MILES JR., Gulf States Paper Corp., new SPCA president; W. J. BAILEY, West Va. Pulp & Paper; "CAP" I. F. ELDREDGE, forestry consultant; JAMES H. GRAHAM, W. Va., woodlands mgr.; ALBERT ERNEST, St. Regis Jacksonville woodlands mgr.

DELEGATES AT SPCA MEETINGS

(L to r) W. H. VERDERY, Harlem, Ga., pulpwood dealer; J. T. McMILLAN, Centreville, Ala., pulpwood dealer; B. W. COOPER, Columbus, Ga., pulpwood dealer; DON YANCEY, Atlanta, and TOM LOBRANO, JR., Jacksonville, Caterpillar tractor dealers.

Eldredge Discusses Resource

Coming of paper mills to the South, predicted 15 years ago as promising to spark an immediate industrial development not equalled since Eli Whitney's invention of the cotton gin, has proven a boon to its forests, said "Cap" I. F. Eldredge, veteran New Orleans consulting forester. Emphasizing the permanence of the industry due to major investments involved, "Cap" said even after all mills have completed their acquisition programs, non-company timberlands must be relied upon to furnish at least 40% of pulpwood supply of the South. He said:

"Unless the industry is able to enjoy a cordial and comfortable relationship with the people around it, its operation through the years may be hampered, harassed, or even hamstrung through legislative action. There is no better insurance against such a contingency than to so conduct our business that a large segment of the population stands to profit along with us; so that the welfare of the industry obviously means as much in the everyday economy of the people and institutions around us as it does in dividends to our stockholders."

Referring to SPCA's 15 years' work of promoting wise management of forest land regardless of ownership, "Cap." credited the organization with leaving no stone unturned or approach unexplored to reach the many people and interests involved.

From the beginning close cooperation by SPCA with all interested agencies has been a wise association policy, he said. The industry itself was said fortunate in ability to demonstrate on its own millions of acres the profitable practices which it preaches; and to pay the financial rewards for better forestry management through a large and profitable pulpwood market everywhere in the South.

Observant travelers can see the obvious change for the better in the Southern forestry situation, he said "yet our forests are far from being well stocked and a shockingly large percentage of landowners still innocent of any idea of forest management."

Review of SPCA's work in relation to public cooperating agencies was presented in a paper read for C. H. Coulter, Florida State Forester, who was unable to attend because of a recent auto accident.

Dealer Cites Experiences

Personal experiences in selective cutting were recited by W. H. Verdery, pulpwood dealer of Harlem, Ga., who has produced from stands thinned by his father in 1943. Cutting has been done at five year intervals.

R. V. Miles, Gulf States Paper Corp., was moderator over an afternoon panel on the seedling program. Mr. Miles strongly urged a full-scale youth program for negroes.

Advantages of a mill operating its own pine seedling nursery were extolled by N. W. Sentell, forester for Southern Advance Bag & Paper Co.

Delegates called oustanding a paper presented by Lloyd Hall, International Paper, Panama City, Fla., setting forth results of an intensive five years' program to bring an estimated 500,000 acres in need of planting (including 75,000 abandoned fields) in seven counties contiguous to the mill. The paper was excellently presented by Jim Tucker, Mr. Hall's assistant. Under the program, the first 5,000 seedlings are free. After that,

the land owner must buy matching amounts ($3.25 per M) for free seedlings; maximum free seedlings, 20,000. A total of 35,000 seedlings will plant 35 acres. An essential point, experienced company men are at hand when seedlings are given out so adequate planting information is available. The company follows up with letters to owners asking how the planted areas are progressing.

Results: 15 million free seedlings distributed in 5 years; for every tree cut on non-company lands this year, 4 seedlings will be planted; for all lands, including company, 9 seedlings planted for each tree cut for pulpwood; for each tree cut for all purposes, 6 seedlings planted; total seedlings planted in the area this season 20 million, where only 3 million were planted the year prior to launching the program.

Stepping up of seedling planting to 4 million this season as compared to a total of only 2½ million over the past decade was recounted by A. D. Folweiler, Texas Forest Service Director, in reporting a campaign put on in a two county area near Texarkana.

When West Virginia Pulp & Paper Co. discovered that most recipients of free seedlings thought they were paid for from public funds it substituted distribution through its pulpwood concentration yards, said Manton R. Frierson, Jr., company conservation forester.

Ken S. Trowbridge, North Carolina Pulp Co., told about their free seedling program operated through 4-H Clubs, FFA members, vocational agricultural schools, boy scouts, and other youth groups and identified as coming from the company.

In reviewing a program section devoted to youth forest activities, B. E. Allen, Union Bag & Paper Corp., reported on the company's program to provide school forests by providing 10 acre plots, either company owned or company leased, with all returns going to the school.

Al Herrington, International Paper Co. conservation forester in Arkansas, reported on a successful summer forestry camp for negro youths.

Beneficial effects enjoyed from summer forestry camps for boys were reported by Guyton DeLoach, Georgia forestry commission director.

D. E. Hess, of the Glatfelter Pulp Wood Co., served as master of ceremonies at the annual dinner.

Preceding the association session, there was a meeting of conservation foresters.

Officers named for SPCA for the coming year included: R. V. Miles, Jr., Gulf States Paper Corp., president; Ken S. Trowbridge, North Carolina Pulp Co., vice president; C. H. Niederhof, West Va. Pulp & Paper Co., as past president, director at large.

Directors for Area I: R. L. Fitts, (President) Southern Advance Bag & Paper; Earl Porter, International, Mobile; Major H. A. Maas, Southland Mills.

Directors for Area II: John Reyburn, Coosa River Newsprint; A. D. Toler, International, Mobile; F. E. Stapler, Hollingsworth & Whitney.

Directors for Area III: T. W. Earle, Gair Woodlands; Truman Pease, St. Mary's; S. K. Hudson, Container Corp. of America.

Directors for Area IV: Herschel Keener, Champion (Canton); K. S. Trowbridge, North Carolina; A. L. Wenrich, Continental Can.

Japanese Deal Would Wreck World Dissolving Pulp Market, Says APPA

THE AMERICAN PAPER & PULP Association's 650-word protest to the U.S. Government against sale of publicly-owned Alaska timber to Japanese interests specifically charges that such action "would destroy the very world markets" for which the U.S. develops pulp industry "has been expanding its productive facilities to serve."

First reports of the APPA formal protest were published in the last issue of PULP & PAPER. Its details reveal the flat statement that "there is already an oversupply of dissolving pulp on a world basis." These figures are presented:

North America's dissolving woodpulp capacity will reach 1,600,000 tons annually by 1955, an increase of 114% over 1946. *The increase during 1953-54 alone is to be 55%.* North American demand by 1955 will be 900,000 tons, leaving 700,000 for export. Biggest exports in any year to date have not exceeded 200,000 tons.

Old World consumption of dissolving pulp averaged 1,270,000 tons annually in the past two years and its own productive capacity is expected to increase by 200,000 tons by 1955.

"Few would be so bold as to predict the Old World will soon be in a position to absorb an aggregate increase in potential supply by 1955 of 700,000 tons, or 55%," said APPA.

The statements calls attention to the government-sponsored Paley Report "questioning long-range adequacy of U.S. forest reserves." The protest is based on an "understanding" that the U.S. government is considering selling Alaska pulpwood to Japanese interests which "under cloak of an American corporation, would use this wood to produce dissolving pulp for shipment to Asia."

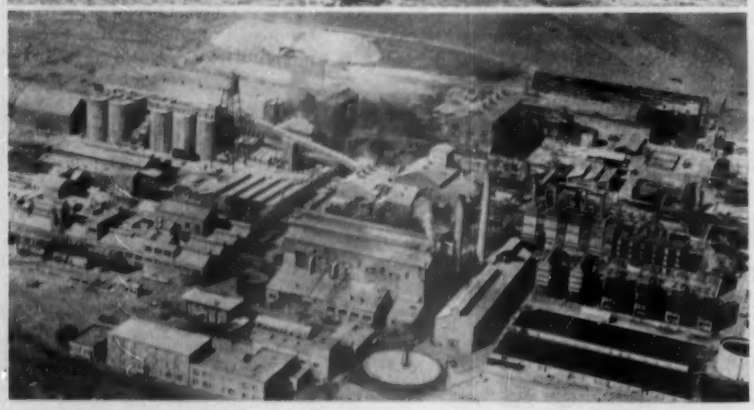
It states the fast-expanding North American dissolving pulp industry is "ready, willing and anxious to negotiate long-term contracts with all comers, including the Japanese."

Thew Shovel Publishes Wood Handling Book

"Pulpwood Handling with Thew-Lorain" is subject of a new 16-page book just released by The Thew Shovel Co., Lorain, O., manufacturers of power cranes and shovels. The story of mechanized pulpwood handling from the woods to the mill is told graphically with large, full-page illustrations and job descriptions. Lorains in all sizes and on crawlers, rubber tires and special mountings are shown at work. Copies are available from any Thew-Lorain distributor or from the company.

TRADE PAPER EDITORS VISIT ALBANY FELT

SOME OF THE HOSTS at the Albany Felt Co. Open House held for trade paper editors in January were (l to r) H. J. MACMILLAN, director of product design; S. ENGLE, chief felt designer; and H. HEDBERG, assistant vice president in charge of research and development. The visiting editors were taken through the company's largest plant at Albany, N. Y., and shown some of the highlights of felt manufacture.



(Top) KRAFT MILLS NEED THIS

FROM THIS dense alkaline brine crust of Searles Lake on Mojave Desert comes essential ingredients for chemical pulping.

(Bottom) CRUST IS PROCESSED

AIR VIEW of American Potash & Chemical plant at Trona, Calif. Note silos at left for salt cake.

Trona Reflects Kraft Growth

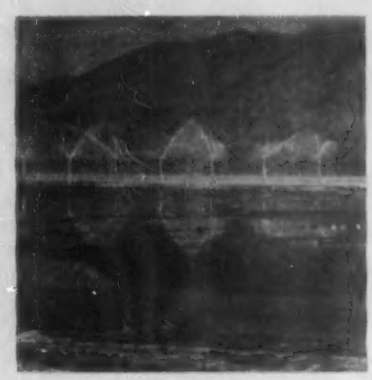
A MAJOR SOURCE of supply of salt cake (sodium sulfate), important requirement of the chemical pulp industry, is Searles Lake at Trona, Calif., in the northern part of the Mojave Desert. Dense alkaline brine from this dry lake contains the mineral salts from which American Potash & Chemical Corp. manufactures salt cake, soda ash, potash, borax and other products for use by agriculture and industries.

Since 1940 the production capacity of salt cake at Trona has increased from 85,000 tons to 235,000 tons by 1950, according to William J. F. (Buck) Francis, general sales manager, Western, whose headquarters are at 3030 West 6th St., Los Angeles. This reflects the phenomenal growth of the kraft industry, especially on the West Coast.

Salt cake is an end product of the soda products plant and it is contained in burkeite, a double salt consisting also of soda ash.

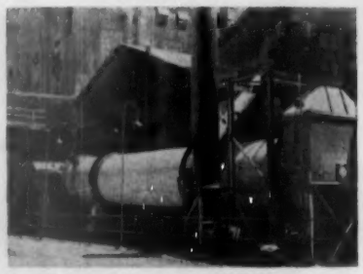
Burkeite is first dissolved in water, then through re-cycling flows and the use of steam, refrigeration and the use of sodium chloridate, two intermediate products, Glauber salt, and sal soda are obtained. The Glauber salt, a hydrated form of sodium sulfate, is then mixed with common salt which causes it to lose its water of hydration and become anhydrous, the form more commonly known as salt cake.

The demand for Trona products is so greatly increasing that a new development has been introduced at Searles Lake. A spray method is being used on lake brine whenever temperatures are low enough to cause the precipitation of Glauber salt. The tonnage produced is processed into salt cake at the main plant.



SPRAYING SPEEDS UP OUTPUT

NEW PROCESS at Searles Lake is spraying, as shown here, right at lake to precipitate Glauber salt.



WHERE SALT CAKE IS DRIED

CLOSEUP OF salt cake dryer at American Potash plant at Trona, Calif.

WM. M. (BILLY) CLINES, new Western Sales Mgr., Heavy Chemicals Div., American Potash & Chemicals, whose appointment was announced by W. J. F. FRANCIS (right), Gen. Sales Mgr.

Billy Clines Joins American Potash

William M. Clines has been appointed Western sales manager of the Heavy Chemicals Division, American Potash & Chemical Corp., according to William J. F. Francis, general sales manager, Western.

Mr. Clines formerly was with the General Chemical Division, Allied Chemical & Dye Corp., and was its district sales manager in the Pacific Northwest and recently in Southern California. He is a past president of the Seattle Waiting Room of the International Brotherhood of Migratory Peddlers (of the Coast pulp and paper industry).

Born in Louisville, Ky., Jan. 20, 1908, he is a graduate of Xavier University of Cincinnati, with an A.B. degree, magna cum laude. He held national ranking in intercollegiate tennis and golf and has starred in squash racquets in recent years. He and his wife and seven-year-old-son, Billy, live in West Los Angeles.

Future Viewed Cheerfully by Fowler

THE YEAR AHEAD should be another good one, at a high level of production and achievement, Robert M. Fowler, president of the Canadian Pulp and Paper Association, told the association's annual luncheon meeting in Montreal Jan. 29.

Mr. Fowler's optimistic forecast, coupled with a thoughtful presentation of some fundamental problems facing the industry in Canada, was one of the features of the meeting, held in conjunction with the 40th annual sessions of the Technical Section, at Sheraton-Mount Royal Hotel.

Another feature was the Stadler memorial address, presented this year by one of the industry's veterans, Dr. John S. Bates, for many years associated with Price & Pierce, Ltd., and a world authority on forest economics. He was the technical section's first chairman.

More than 1,200 attended the meetings, setting a new high mark for the association. Paul E. Cooper, president of Pacific Mills, Vancouver, B.C., was elected chairman of the association's executive committee, succeeding P. M. Fox, president of St. Lawrence Corp., Montreal. J. B. Jones, manager of manufacturing, Ontario Paper Co., Thorold, was elected chairman of the executive council of the technical section, succeeding R. L. Fraser, mill manager, Manitoba Paper Co., Pine Falls, Man.

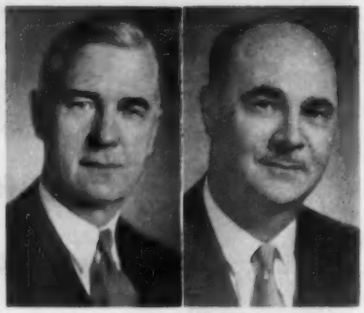
Vice chairman of the section is W. S. Cramp, resident manager, St. Lawrence Corp., Dolbeau, Que., and councillors are: W. E. Soles, general manager, Anglo-Canadian Pulp & Paper Mills; G. F. Allo, manager of boxboard department, Bathurst Power & Paper Co.; E. Lorne Goodall, president, Dryden Paper Co.; H. E. Mason, mill manager, Howard Smith Paper Mills, and Dr. R. de Montigny, technical director, E. B. Eddy Co.

Mr. Fowler's cheerful view of the future was tempered by recognition of some of the pressures besetting the industry. He believed that in Canada the best working partnership between business and government anywhere in the world had been achieved, but it could easily deteriorate, and there was need for a more realistic concept of laws affecting business.

"There is no better illustration than our present anti-combines laws," said Mr. Fowler. "Today the vast majority of businessmen are eager to live within the letter and spirit of our laws. They can distinguish between legality and morality. But under our present anti-combines laws they don't know what is lawful and their legal advisers are unable to tell them with any assurance of being right. . . . There is something wrong with a law that attempts to indict the whole business community. . . . Must we, as businessmen, sit idly by and watch unemployment grow and the life savings of thousands disappear because employers cannot plan together to keep jobs in existence? Do we really want the law of the jungle to govern the business life of Canada?"

Mr. Fowler said that Canadians were anxious to see U.S. tariffs lowered, but they must be prepared to give something in return.

"If, as a practical matter, the U.S. can only lower tariffs and not eliminate them, do our tariffs stay where they are?" he asked. "Will we be able to compete at a lower level of U.S. tariffs and will we be able to offer some worthwhile concessions to stimulate freer international trade?"



JOHN S. BATES (left), Consulting Engineer with long experience in Canada, predicts Dominion can double its output of forest products. New Chairman of the technical section CPPA is J. B. JONES (right) Manager of Mfg., Ontario Paper Co., Thorold, Ont. He succeeds R. L. FRASER, Mill Manager, Manitoba Paper Co., Pine Falls, Man.

Canada Can Double Forest Products

DR. JOHN S. BATES' memorial address at the Montreal convention was entitled "Life Begins at 40," relating to the Canadian technical section's anniversary.

Looking to the future, he pointed out that while Canada has 1.3 million square miles of forest, intensive management should be concentrated on the 300,000 square miles of woodlands which are most accessible. By comparison, Norway, Sweden and Finland have a total area of 200,000 square miles. "Potentially, the way is open to double the value of our forest products as fast as markets at home and abroad can be developed," said Dr. Bates.

The speaker pointed out that Canada's pulp exports have increased by a million tons annually since prewar, but that these exports merely replaced tonnages which pulp mills in Northern Europe could not supply. "It is a sobering fact," he said, "that the U.S. now imports no more market pulp than it did 15 or 20 years ago."

And he added that the purchasers of Canadian newsprint were buying the equivalent of 2 million hydroelectric horsepower and 6 million cords of the country's finest pulpwood, all of which was required for production of 5½ million tons of newsprint.

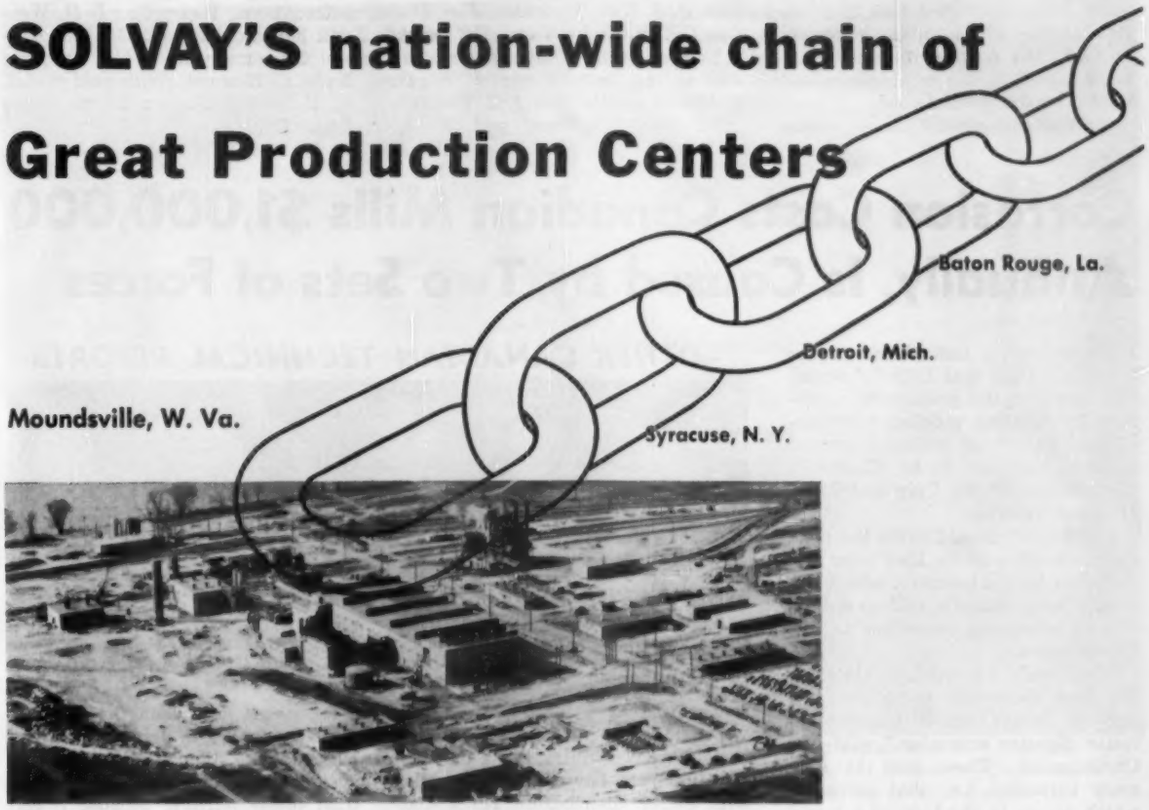
The increasing proportion of Canada's mill capacity that has been devoted to sulfate pulp has not paralleled that which has occurred elsewhere, said Dr. Bates, and in Canada the production of sulfate pulp, the very processes suited to a better balanced use of the forest, was advancing rather cautiously. At the same time, the proportion of sulfite pulp produced in Canada, compared with other products, had increased, whereas elsewhere in the world it had declined.

Forty years ago, kraft pulp represented only 6% of world produc-

SHERBROOKE TEAM

SHERBROOKE MACHINERIES of Montreal, Canadian associate of Improved Machinery Co., Nashua, N. H., has been busy recently supplying washers, deckers and other equipment. M. W. (Stubby) DAVIS (right) is President of the company. With him are CY WOOD (left) and THOMAS W. TOOVEY.

The Newest Link in SOLVAY'S nation-wide chain of Great Production Centers



To Better Serve You with an additional source of supply, SOLVAY announces the start-up of its chlorine-caustic soda operations at the new Perkins Plant at Moundsville, W. Va.

Equipped with the Most Advanced Facilities in the industry—this new plant represents the last word in modern manufacturing equipment and efficient production methods. Very shortly this plant will also be producing Methyl Chloride, Chloroform, Methylene Chloride and Carbon Tetrachloride.

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Your Needs and Problems are handled by SOLVAY's trained and experienced *local* field representatives operating out of SOLVAY's 13 branch offices. And whether you're a small or large manufacturer—you're always sure of receiving the close, personal attention that best fits your *individual* needs!

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tion whereas it was now 32%, while sulfite pulp accounted for 44% 40 years ago and now was only 27%.

Dr. Bates suggested that "the superabundance" of sulfite digesters in Canadian newsprint mills might be modified to use tree species not now used for groundwood.

At the anniversary dinner seven of the surviving founders of the technical section attended—Sigmund Wang, T. L. Crossley, R. L. Campbell, J. B. Beveridge, J. A. DeCew, G. W. Dickson and Dr. Bates.

Winners of the annual awards for outstanding service were: *F. G. Robinson service award,* T. Foulkes, chief plant engineer, and K. R. Meyer, development engineer, E. B. Eddy Co., and P. N. Bowle-Evans, assistant plant engineer, Canadian International Paper Co.; *I. H. Weldon gold medal,* J. C. Jordan, Abitibi Power & Paper Co., Iroquois Falls; *C. Howard Smith gold medal,* P. E. Wrist, Quebec North Shore Paper Co.

Corrosion Costs Canadian Mills $1,000,000 Annually, Is Caused by Two Sets of Forces

—OTHER CANADIAN TECHNICAL REPORTS

WHAT'S YOUR PROBLEM?

SEVERAL MAJOR CANADIAN COMPANIES were represented in this panel on operating problems at the Montreal convention. (L to r) GEORGE C. ARNOLD, Spruce Falls Power & Paper; W. E. PATTE, Consolidated Paper Corp.; J. H. BARDSLEY, St. Lawrence Corp.; E. C. METHERELL, Manitoba Paper; N. S. GRANT, Spruce Falls.

FINDINGS OF a task force of the Canadian Pulp and Paper Association studying the problem of corrosion in alkaline pulping were reviewed before its technical section in Montreal Jan. 28 by Claude B. Christiansen of the Pulp and Paper Research Institute.

The project is said to be the most comprehensive of its kind ever undertaken by the industry, which annually loses almost a million dollars due to corrosion, according to Mr. Christiansen.

"Our study has made it clear for the first time that there are two sets of forces which combine to cause digester corrosion," said Mr. Christiansen. "These are: 1) Primary corrosion, i.e., that corrosion which occurs in the form of a broad area of attack over exposed surfaces of a digester and which results from interaction of liquor, wood and steel; 2) Secondary corrosion, i.e., that corrosion which tends to localize and aggravate the attack and which determines the many corrosion patterns found in digesters.

"Fabrication methods, digester design, certain operating practices and possible variations in steel are clearly the most important of the secondary factors."

Mr. Christiansen suggested these remedial measures:

1) Design of digester (particularly liquor inlets, strainers and other fittings) so stock does not hang up between blows. Otherwise severe localized corrosion is likely to occur under the fittings concerned.

2) Specify that only manual weldings be used inside digesters.

3) Avoid use of stainless steel linings and fittings when they must be welded to the inside shell of carbon steel digesters.

4) Avoid use of cast steel fittings. Specify that the fittings be forged or fabricated from rolled steel plate.

5) Avoid washing of walls with liquor that is in intimate contact with air, such as can occur with certain types of filling inlets that allow liquor to flow down the walls, with liquor distribution rings that permit impingement of liquor on the walls and when uneven chip distribution directs filling liquor against the wall.

Peroxide Bleaching and Sulfur

Use of peroxide as a bleaching agent was described by a group of mill men and representatives of DuPont and CIL who have pioneered the process in Canada, developed on a trial basis four years ago at the sulfate mill of Marathon Paper Mills of Canada.

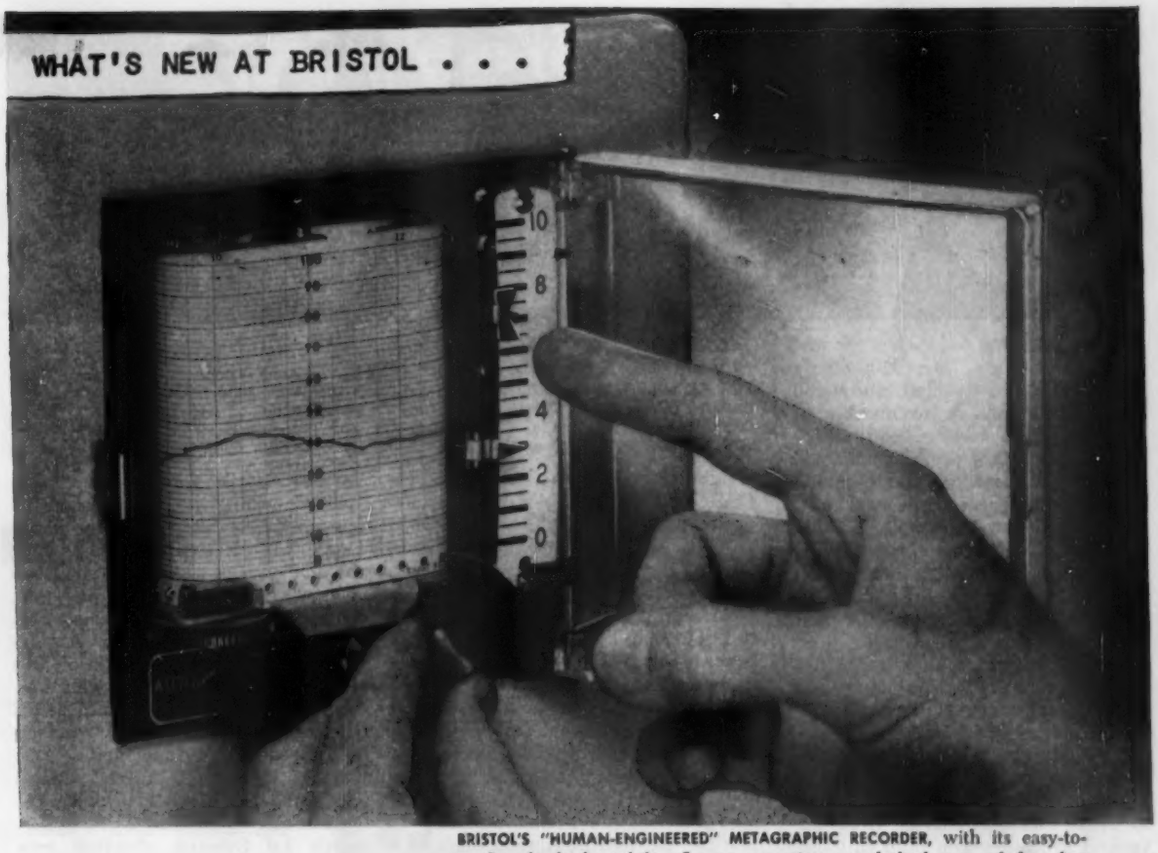
Speakers mentioned a variety of chemicals usable in this process, all in good supply, among them being sodium peroxide, Epsom salts, sodium silicate and caustic soda. There were three possible applications in a normal operation—to replace caustic soda, hypochlorite or superbleaching. The process at Marathon was accomplished in from 40 minutes to 2¼ hours at a cost of $2.97 per ton and the result was stable brightness and no loss in pulp strength. Superintendent C. Steeves of Marathon headed this panel.

R. D. Litchfield, resident engineer, Abitibi's Smooth Rock Falls (Ont.) mill, told how his mill had met the sulfur shortage in Canada a few years ago when the U.S. allocated supplies to defense industry. He said the liquid sulfur dioxide system is much easier to operate than sulfur burning because it can be started up and closed down in five minutes, compared with five hours required in the burning process. This permits cleaning and repairs during the week rather than when the mill is not operating.

Converting to Hardwood Use

How Canadian mills are achieving fuller utilization of wood species by converting hardwood into pulp was described by R. M. Dorland, R. A. Leask and J. W. McKinney, of Abitibi's research laboratory at Sault Ste. Marie, Ont. They investigated the properties of pulp resulting from cooking hardwood chips in the neutral sulfite cooking process. The chips were only partly cooked by a sulfite solution and then defibered by mechanical means.

Much can be done to improve planning and layout of woodyards in pulp mills with a view to reducing cost of wood handling, according to G. H. Mikkelborg, materials handling engineer for Ontario Paper Co. Heading up a special committee which surveyed methods at many Canadian mills, Mr. Mikkelborg predicted as a result of his observations that standardization of yard conveyors and stackers would re-



BRISTOL'S "HUMAN-ENGINEERED" METAGRAPHIC RECORDER, with its easy-to-read scale, high-visibility fluorescent pointers and shadow-proof door has earned the distinction of being the "biggest little instrument in the business."

Instrument men call Bristol's METAGRAPHIC Recorder

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CONTINUOUS VALVE-POSITION INDICATION . . . on same instrument scale as set-point scale, gives continuous data on control valve position—makes "bumpless" transfer possible simply by matching pointer positions – no need to read actual scale values – minimizes reading errors – speeds operations.

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MORE WAYS TO BLEACH

THEY DISCUSSED PEROXIDE BLEACHING at Montreal. (L to r) W. F. SCHROEDER, National Distillers Chemical Co.; D. M. REID, Marathon Paper Mills of Canada; G. ROWLANDSON, LongLac Pulp & Paper; C. STEEVES, Supt., Marathon Paper Mills of Canada; K. G. AITKEN, Canadian Industries Ltd.; R. L. McEWEN, Buffalo Electro-Chemical Co.; J. A. ALLAN, Canada Paper Co.; C. L. TOMLINSON, Howard Smith Mills.

duce engineering for such work and would cut costs. Mr. Mikkelborg suggested more detailed study and recommendations as to number of conveyors and stackers required for the various sizes of mills and the types of equipment needed to handle desired number of cords per hour.

T. M. Medzwiecki, control engineer, Anglo-Newfoundland Development Co., reported on a survey on lubrication. He said the solution to inadequate lubrication in pulp and paper mills was planned lubrication.

Use of Vibrotors for screening shives and dirt out of pulp and thus improve its quality was described by Sven Fahlgren, of Bird Machine Co. Mr. Fahlgren said the Vibrotor saves floor space and costs.

Equipment used by Ontario Paper to refine waste material from its various processes into pulp suitable for newsprint was outlined by R. T. Wetmore, its groundwork engineer. The refining units at Thorold have now been located in one center where all waste from the mill can be treated for further use. The installation, said Mr. Wetmore, is effective in refining sulfite knots, bull screen waste and groundwood rejects.

Advantages of the Betameter, using a radio-active substance to detect changes in the uniformity or weight of paper, was described by C. S. Waddell, Abitibi's control superintendent at Sault Ste. Marie.

VIEW OF ROSS HOOD at Iroquois Falls mill of Abitibi Paper Co., mentioned in paper on this page. Left, from tending side with front panels down in operating position; right, with front panels raised.

Closed Hoods Described

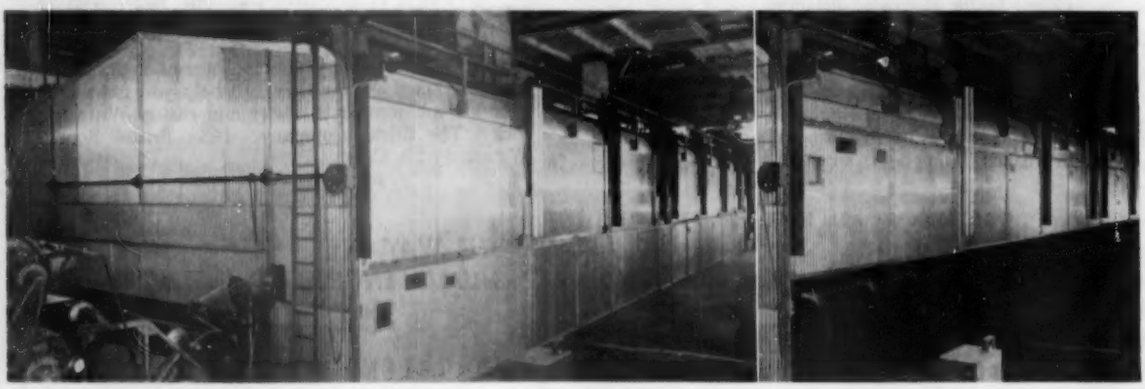
Successful installation and operation of closed hoods around the dryer section of three newsprint machines was described by J. C. Jordan, Abitibi engineer at Iroquois Falls, who said that after three years of operating with machines completely covered by hoods it was obvious that the results had been highly successful. Steam consumption per ton had been reduced, and drying rate increased. Ventilation of the room had also been improved.

A method of organizing and implementing a test of the efficiency performance of the dryer section of a paper machine was reported by G. J. Chalmers, Ross Engineering of Canada, who pointed out that with the increasing speeds of modern machines the bottleneck to increased production has been the dryer section. Performance testing is a long, tedious job, said Mr. Chalmers, but results do show possible economies.

An investigation into the formation of paper from pulp stock as a filtration process on the moving wire screen was described by P. E. Wrist, Quebec North Shore Paper Co., Baie Comeau, Que. The process of paper making differs from the usual industrial filtration processes in that the efficiency of separation and, to a certain extent, the rate of filtration are secondary considerations. The first aim, said Mr. Wrist, was to produce a uniform quality of the sheet of paper, which is largely determined by the kind of pulp being used and the treatment it receives before reaching the machine.

Bengt Leopold, Industrial Cellulose Research, Ltd., Hawkesbury, Ont., reviewed results of recent research by Swedish chemists into properties of lignin.

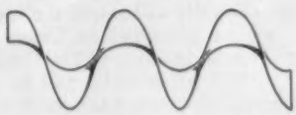
Considerable attention was given to explanations of the Chapman printing smoothness tester, developed at the Pulp and Paper Research Institute of Canada by S. M. Chapman. By means of this apparatus the industry can more effectively control smoothness of its product. Results of studies at the Institute of Paper Chemistry with the Chapman tester were given by G. R. Sears, J. A. Van den Akker, M. H. Aprison, N. J. Beckman and C. W. Denzer, of the Appleton staff. A modification of the tester was described by D. Noel Obenshain, research engineer, W. Va. Pulp.



See why Link-Belt screw conveyors are 8 ways better

1. LOOK FOR UNIFORMITY OF PITCH

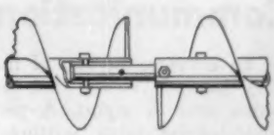
Specialized modern machinery assures accurate forming, producing uniform flighting curvature.



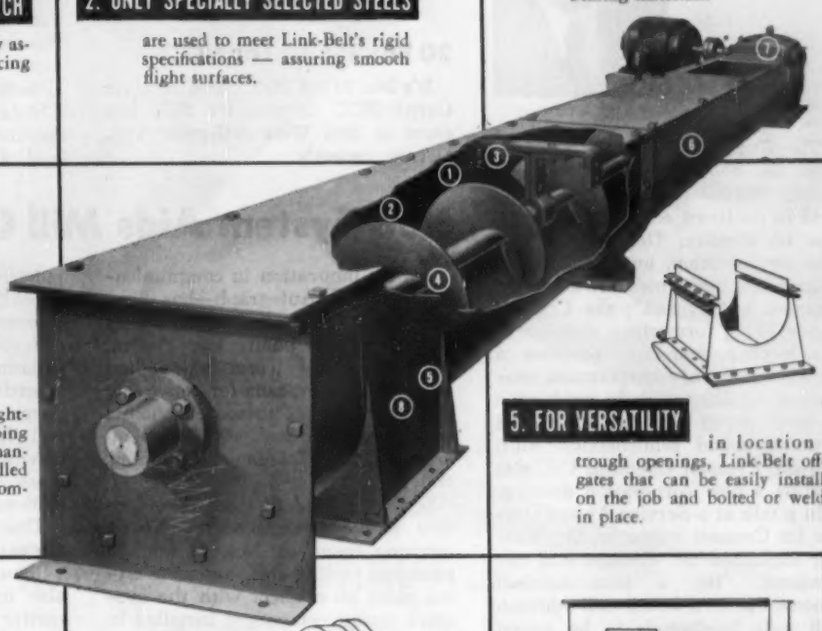
2. ONLY SPECIALLY SELECTED STEELS

are used to meet Link-Belt's rigid specifications — assuring smooth flight surfaces.

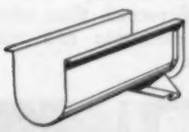
3. HERE'S A WIDE RANGE of hanger styles and mountings with various bearing materials.



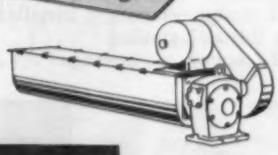
4. FOR YOUR PROTECTION straightness is checked before shipping and extra care is taken in handling and loading. Jig-drilled coupling bolt holes assure complete and easy assembly.



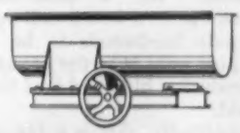
5. FOR VERSATILITY in location of trough openings, Link-Belt offers gates that can be easily installed on the job and bolted or welded in place.



6. YOU'LL DISCOVER that troughs are accurately fabricated to assure better fit of all components. Link-Belt offers a choice of metals to fit your particular application.



7. ONLY LINK-BELT builds a complete integrated line of gear and chain drives, couplings, bearings. One proved source . . . one undivided responsibility.



8. YOUR CHOICE of fixed or detachable plain discharge spouts or gates. Flat or curved slide type gates can be hand or rack-and-pinion operated.

LINK-BELT

SCREW CONVEYORS

These are only a few of the many important differences in screw conveyors. Ask your Link-Belt sales representative or distributor for new 92-page Data Book 2289.

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle; Scarboro, Toronto and Elmira, Ont. (Canada); Springs (South Africa); Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities. 13,378

Tells How Crossett Diversifies

CROSSETT interests centered at Crossett, Ark., have been simplified in capital structure when The Crossett Lumber Co., The Crossett Timber & Development Co., and The Crossett Chemical Co., became merged into one corporation as "The Crossett Company," according to Peter F. Watzek, company president.

PETER F. WATZEK, President, The Crossett Co.—"our semi-chemical mill is a big undertaking."

The Crossett Timber & Development Co. held title to the approximately 500,000 acres of forest land held in southern Arkansas, and will lose its identity. The lumber production operation, amounting to 50 million feet board measure annually, becomes a "division"; the Crossett Paper Mills, formerly a division of the lumber company, becomes a division of the new corporation, continuing its 420 ton daily production of kraft paper plus the anticipated new hardwood semichemical mill; and the Crossett Chemical Co., also will be a new corporation division.

In a talk at a Service Award Dinner for Crossett employes, Mr. Watzek explained the changes and expansions. "By a semi-chemical process our new board mill addition will pulp hardwoods to be mixed with pine pulp from the present mill for producing bleached food boards," he said.

"Admittedly, this is a big undertaking for Crossett since the process and products are new to us and since the plant will cost a lot more than the original paper mill did when it was built.

"Next on the list of changes come the diversification of Crossett by two new paper converting plants. If we are to reach our goal of a normal industrial city, we must round out our manufacturing with more and different employers.

"So much manufacturing progress brings other changes such as new streets, homes and stores. The newest achievement is approval for a new city hall and ahead of it have been the new 1000-seat community auditorium, and third negro swimming pool in Arkansas and admission of our colored schools as the sixth in the state to North Central Association membership.

"With formation of the Crossett Co., we are being careful not to surrender but only to change the original Crossett Lumber Co. charter so we can still trace ourselves back directly to 1899.

"The sawmills will retain the original names, changing to Crossett Lumber Co., a Division of The Crossett Co. The paper mills will be a division of The Crossett Co., yet continue to use their Crossett Paper Mills name."

20 Box Plants For NCC

It's No. 20 for National Container Corp.! NCC opened its 20th box plant at 2360 West Jefferson Ave., Detroit, recently.

New Liquor Lagooning

One-fourth of all spent sulfite liquor at the Wisconsin Rapids mill is being used to test a soil filtration process in four lagoons two miles from the mill, Consolidated Water Power & Paper Co. announces.

"All the mill's liquor may eventually be pumped to large beds and processed by this method before released to the river," Gilbert K. Dickerman, company technical director, stated.

To reach the stream, tank truck-hauled hot liquor must pass through many layers of sandy soil. Biochemical activity in the soil consumes much of the wood sugars.

Joins Armour Foundation

Samuel Radner, former assistant director of Chicago's air pollution control, has been appointed a full research chemical engineer at Armour Research Foundation of Illinois Institute of Technology, Chicago, which offers its research facilities for private projects in behalf of the pulp and paper industry.

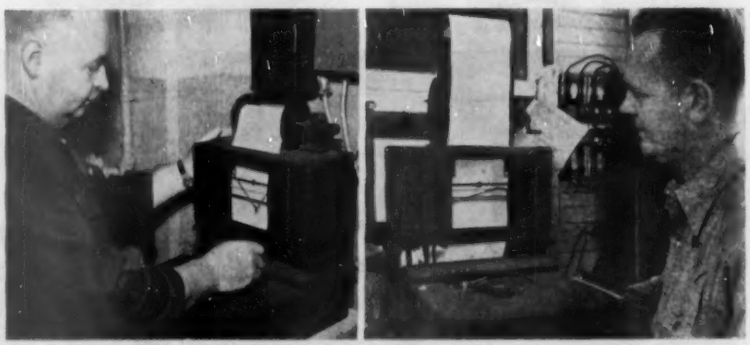
New System Aids Mill Communication

A new innovation in communications—the TelAutograph—has been installed at Crown Zellerbach Corp's Camas, Wash., plant. The system, consisting of 8 receiving-sending units, provides means for conveying written messages to various points which are concerned with intraplant loading, with unloading and shipping, etc.

Units installed in dock, bag factory shipping department, No. 1 finishing room, at Nos. 11 and 15 machines, sulfite mill and converting plant all connect with the system's master component installed in a car dispatch station.

To convey a message to dispatcher, an operator at any of the subsidiary stations "writes" out the information with a stylus. A pen arm duplicates the stylus "writings" at both receiving and sending units, recording the pen movements on paper strip which feeds from one roll through the machine to a receiving roll. The dispatcher can send messages to one or all subsidiary stations.

This system enables workmen at the various units to receive messages without remaining near a phone and also makes message transmittal a matter of record, thus eliminating possible confusion and misunderstandings.



NEW SYSTEM SPEEDS IN-PLANT MESSAGES

(At left) OLIVER HAMMER, Shipping Clerk, at Crown Z, Camas, sends message on TelAutograph. (At right) JOHN OSTENSON, Car Dispatcher, observes message being recorded.

For the finest quality finish... specify "U. S." Roll Coverings

Imparting the finest finish to paper requires the right kind of roll covering with the ability to "run clean" and not pick up fiber. This goal is achieved in "U. S." Rolls because the "U. S." engineers build into them the proper resilience, correct and uniform hardness, smoothness of grain. United States Rubber Company engineers carefully go over the customer's needs. They study operating conditions, speeds, working pressures, types of stock—to make sure they specify the best.

So, for paper of the finest quality finish, *and* strength, investigate "U. S." Roll Coverings. Write to address below.

"U. S." Research perfects it • "U. S." Production builds it • U. S. Industry depends on it.

US RUBBER

UNITED STATES RUBBER COMPANY

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Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe and Fittings • Grinding Wheels • Packings • Tapes Molded and Extruded Rubber and Plastic Products • Protective Linings and Coatings • Conductive Rubber • Adhesives • Roll Coverings • Mats and Matting

Where Pacific Coast Supply Co. Staff Started New Activities

IN RECENT ISSUES, we have reported individually where most of the staff of the now no longer existent Pacific Coast Supply Co., have made connections and it is of interest now to summarize these moves.

Pacific Coast Supply Co., incorporated as subsidiary of Crown Willamette Paper Co. back in 1919 when the West Coast industry was short on recognition and services from producers of mill supplies and equipment, terminated its functions Dec. 31. During the company's lifetime the industry it served developed close liaison with manufacturers and grew to the point it now has influence of its own commanding international recognition. Thus the company fulfilled its purpose and now has closed both of its offices—Portland and San Francisco.

John M. Fulton, former manager of Pacific Coast Supply since 1940 and its president since 1950, became director of purchases, based in Portland, Ore., for Crown Zellerbach Corp.

W. C. Marshall, with Pacific Coast Supply since 1931, became manager last summer and served in that capacity until end of the year. He is now Pacific Coast representative for Dyestuff Department, American Cyanamid Co., with offices in Portland at 935 N. W. 12th Ave., one of the Coast points at which the organization carries stocks for the industry.

Mrs. Dorothy (Wilber) Farr, office supervisor for Pacific Coast Supply since 1928, also went with American Cyanamid, in charge of the Portland office under Mr. Marshall.

Ed Tidland, with the supply company since 1936 when he transferred from the Camas mill (where he was master mechanic), devotes full time to Tidland Machine Co., Camas, Wash., of which he is president. That organization markets pneumatic winding shafts which he developed.

Roy W. Keller, formerly resident manager of the San Francisco office, has been named West Coast sales representative for F. C. Huyck & Sons felts and jackets. He moved to 435 S. W. Douglas St., Beaverton, Ore., where he keeps his office.

Hugh T. Gardner, with Pacific Coast Supply for three years specializing in slime control chemicals service, is now Coast technician for Buckman Laboratories. He works out of his home at 10705 N. E. Eugene St., Portland.

Hugh J. Bolger, who came with the supply firm from Camas mill in 1941, has been named West Coast representative for Cameron Machine Co. His address is 128 Crespie Drive, San Francisco.

Tom B. Scarfone, with the supply company for five years as sales engineer, is West Coast representative for Eastwood-Neally Corp. and Union Screen Plate Co. His office is at 2625 Eighth Ave., Milwaukie, Ore., a newly-built home which he and family occupied early this year.

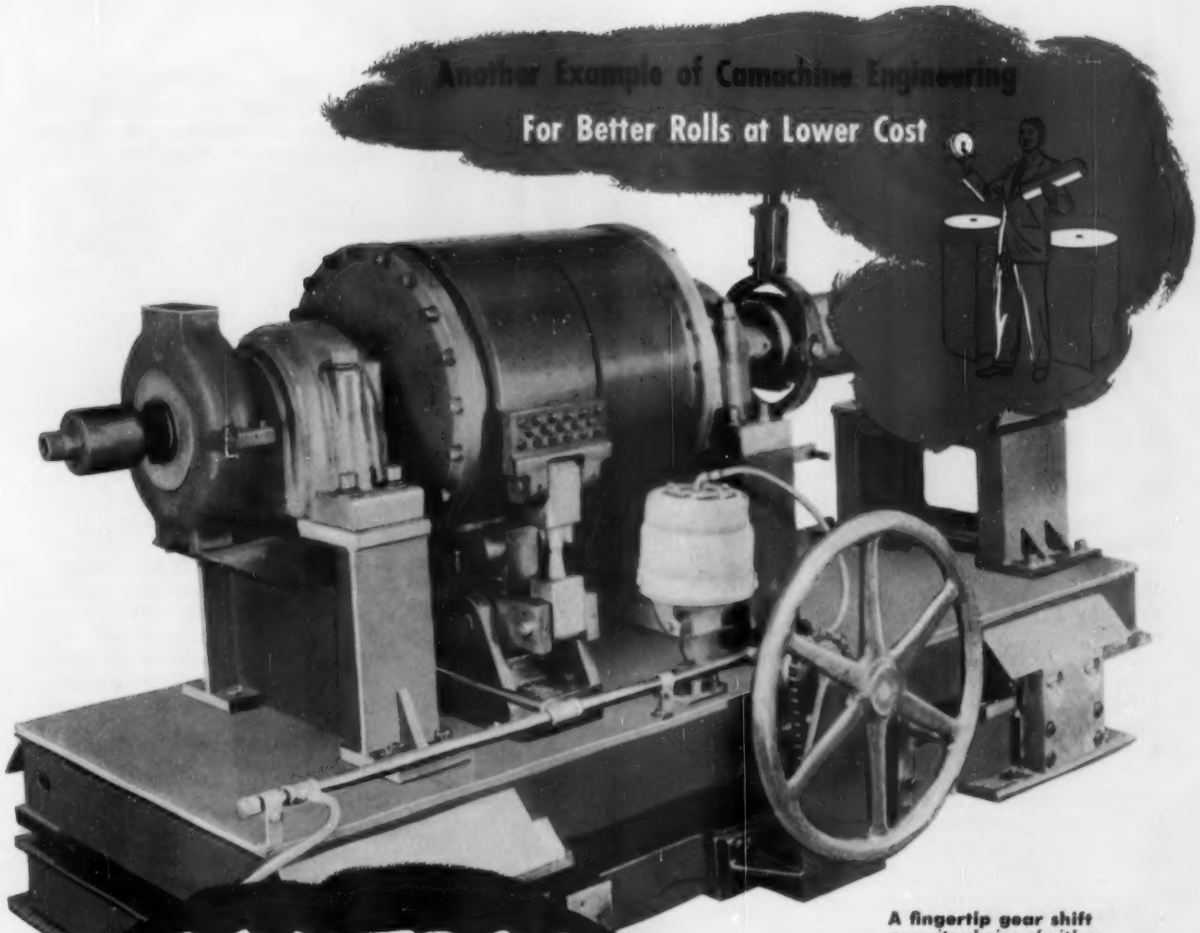
Picture Story of Wire Weaving Is Available

"Fourdrinier Wires and the Human Factor" is an interesting booklet issued by Eastwood-Neally Corp., showing steps in manufacture of a wire in pictures, which also show the key personnel on the various jobs. Eastwood-Neally has a fully integrated plant, and makes its own warp and shute wire as well as weaving this into the Fourdrinier screens.

Al Nyitray, sales manager, said copies are available by writing the company at Belleville 9, N. J.

Another Example of Camachine Engineering

For Better Rolls at Lower Cost



CONTROL with the new H BRAKE

H-BRAKE high torque and high heat transfer capacity answer your need for reliable, continuous rewind braking under the most severe running and stopping conditions. ● **H-BRAKE** capacity range (in four models) is 40, 80, 120, and 160 running horsepower with corresponding torque outputs of 36,000; 72,000; 108,000; and 144,000 inch pounds. Brake straps are pneumatically operated. Equal braking torque is applied in either direction of rotation with the same value of air pressure. ● **H-BRAKE** water cooling system produces a high velocity, highly turbulent flow for maximum cooling effect. ● **H-BRAKE** is flexible and adaptable. For example, a single set-up controls stock ranging from low grade bible paper to heavy kraft board. This flexibility assures optimum tension control, safeguards roll quality, eliminates the snap-off problem. *Follow Cameron engineering!*

A fingertip gear shift *permits choice of either* **manual** *or* **motorized** *side shift and mill roll oscillation.*

Don't wind up with less than a Camachine®

CAMERON MACHINE COMPANY • 61 Poplar Street • Brooklyn 1, N. Y.

Represent Pulp Firms in Middle West

NEW WOODPULP SALES REPS:

(L to r) JACK VANDERBERG with D. A. Howard Co., Kalamazoo; JOHN FENDLEY, appointed to Perkins-Goodwin staff in Chicago; ROBERT H. BANKS, with Mead Sales, Chicago.

Banks with Mead Sales

Robert H. Banks is newest member of the woodpulp sales staff of The Mead Sales Co., 20 N. Wacker Dr., Chicago, Ill., where he and Nelson Mead are assistants to David Brittain, vice president, in covering the Middle West and Lake States mills.

Coming from Brussels, Belgium, where he had represented Remington Rand International, Mr. Banks joined Mead in New York in September 1953 and moved to Chicago nearly three months later. Born in Greensboro, N. C., he attended U. of N. C., then graduated from the U. S. Naval Academy in 1945. He served as a junior fleet officer in the Orient and Mediterranean, resigning in 1949 to go into business. He and his wife, Marguerite Louise, a Californian, live at 1600 So. Austin Bvd., Chicago.

Vanderberg Joins Howard

John L. Vanderberg, member of a well known paper industry family, has joined the D. A. Howard Co., headed by David A. Howard, in Kalamazoo, Mich., handling the sales of woodpulps and chemicals in the Middle West area.

In pulp sales, they represent Howard Smith Paper Mills Ltd., Cornwall, Ont., and Elof Hansson Inc., New York City, brokers for Swedish and domestic pulps. They also represent Erie Casein Dryers, Erie, Ill., suppliers of casein, and are special representatives for Wyandotte Chemicals, Wyandotte, Mich.

Mr. Vanderberg was born in Battle Creek, Mich., worked in Nekoosa-Edwards, Bryant and Allied Paper Mills, attended Michigan State College, and was captain and pilot in the army air corps in the war. He recently represented R. T. Vanderbilt in the Midwest.

He and his wife, the former Yvonne Scheuermann, their daughter, Susan, now 3, and Yvonne's mother, Myrtle, widow of the late Joe Scheuermann, longtime sales manager of Cameron Machine and of Bagley & Sewall finishing equipment, live at 605 W. Inkster, Kalamazoo.

His father, the late Roy Vanderberg, was a paper and machine clothing salesman; his uncle, Howard, represents a starch firm, and grandfather, Abe Vanderberg, a veteran superintendent in his 80's, lives in Kalamazoo.

Fendley In Middle West For Perkins-Goodwin Co.

Newest member of woodpulp sales force for the Perkins-Goodwin Co. is John P. (Jake) Fendley, whose appointment to the Midwest staff was announced by Paul Scallan, vice president of Perkins-Goodwin and Midwest manager.

Mr. Fendley was a "Big Ten" basketball star playing with the Northwestern University Wildcats up to his graduation in 1951. Since then he played some postgraduate basketball with a well-known Indiana pro team. Born in Champaign, Ill., he was lost to Illinois, however, when his family moved him to the Windy City at the age of 10. He now lives in Norwood Park Township, a northwest suburb of Chicago.

John Quackenbush is also a Midwest representative for Perkins-Goodwin with Mr. Scallan and Mr. Fendley. Their offices are at 400 W. Madison, Chicago.

Kalamazoo Container Co. Headed by D. A. Howard

Kalamazoo Container Co., of which David A. Howard is president, has moved into a new plant at 2810 North Burdick, Kalamazoo, Mich. First plant of its kind in Kalamazoo, it is a sheet plant operation making corrugating shipping containers and is equipped with two-color printing facilities.

Green Bay Box Co., of Kalamazoo, headed by George Kress, also owns an interest in the Kalamazoo firm.

EQUIPMENT and SUPPLY CO. NEWS

LOBDELL UNITED CO., Wilmington, Del., has acquired all rights for manufacture and sale of the Bridgeport and Diamond lines of grinder and abrasive cut-off machines, formerly manufactured by Bridgeport Safety Emery Wheel Co. and Diamond Machine Co., both of Bridgeport, Conn., and by the Columbia Division of Lodge & Shipley Co., from which the Lobdell purchase of rights was made. The new machines bring new types of grinding equipment to the roll grinders which Lobdell has manufactured for 50 years.

GENERAL ELECTRIC CO., Schenectady 5, N.Y., has a new 8-page bulletin on multiple-generator sectional drives for paper machines. The bulletin describes the flexible versatility of these drives and gives information on installation, operation, maintenance, adaptability and service. Copies are free on request.

YARNALL-WARING CO., Philadelphia 18, Pa., has a 20-page catalog available for free distribution describing blow-off valves for boiler pressures up to 400 lbs. WSP. It includes installation recommendations, construction details and prices.

W. & L. E. GURLEY, Troy, N. Y., announces a new model Permeometer for measuring the porosity or air permeability of materials too porous to be tested accurately or conveniently with a densometer. It will test papers with densometer readings of less than 10 sec. per 100 cc air flow, and will measure air flow from less than one to about 400 cu. ft. of air per minute, per sq. ft., at a pressure drop equal to 0.5 in. of water. Routine tests can be made in less than 15 sec. Details are described in a bulletin available on request.

T. B. WOOD'S SONS CO., Chambersburg, Pa., has added a new variable speed drive to its line of mechanical power transmission equipment. The new drive has up to a 3-to-1 speed range ratio; a new notched belt construction gives higher horse power capacity for single belt drive—5 to 20 hp motors; and is said to have other features of positive locking, efficiency and economy. Bulletin 796, available on request, provides detailed information.

W. D. HAGENSTEIN is managing director of the Industrial Forestry Assn., Portland, Ore., promoted from forest engineer.

PACIFIC COAST NOTES

HARRY S. BOWEN, president of Puget Sound Sheet Metal Works, Seattle, was a passenger on the American Airlines Convair which crash-landed at Buffalo in January. He was injured but not seriously. The plane narrowly missed high tension wires. He walked from the crash in deep mud.

PHILIP LUCH, assistant office manager for Camas division, has transferred to CZ's San Francisco headquarters as staff assistant, controller's department. *C. V. McDONALD*, formerly of West Linn division, succeeds Mr. Luch as assistant office manager at Camas.

EDMUND J. HAAS, formerly relief shift foreman, has been promoted to shift foreman, machine room, CZ West Linn, Ore. *RAYMOND W. WALKER*, assistant office manager of the Crown Port Angeles mills, was promoted to assistant office manager, accounting, West Linn.

KEN SHOLD, chem. engineer, is new technical asst. to pulp mill superintendent at Crown Z's Port Townsend mill. *PHILIP S. SIMCOE*, Port Townsend mill, has transferred from materials foreman to laboratory wood technologist. *JOHN SIEBENBAUM*, former supervisor of mill stores, Port Townsend, is materials foreman.

R. E. LAWTON, supervisor of industrial and community relations, CZ Corp., has been elected a director of the Camas Chamber of Commerce. *F. L. ZIEL*, CZ resident manager, Port Townsend, has been elected as trustee of local Chamber of Commerce. *R. J. SCHADT*, resident manager of St. Helens Pulp & Paper, was elected vice president of St. Helens Chamber.

CARL E. BRAUN, vice president and mill manager, Publishers' Paper Co., Oregon City, Ore., heads the Oregon City Shrine Club of Al Kader Temple this year and is vice president of the local Chamber of Commerce.

FELIX B. McLARNEY, assistant district purchasing agent, has been promoted to inventory supervisor, CZ purchasing department, Portland, Ore. *CHAUNCEY L. STORMS*, assistant purchasing agent, advanced to assistant district purchasing agent, Portland. *ARTHUR O. PERRAULT*, of purchasing, West Linn, became assistant purchasing agent in Portland. *WILLIAM A. F. FOSTER*, formerly of Crown's central engineering, has transferred to West Linn as assistant chief steam engineer—steam plant.

LENNART LUNDBERG, of Halvar Lundberg chemical engineering firm, Seattle, was returning in February from a year in Sweden with his wife, Florence, and their baby son born in Karlstad. The boy's name is Christian Alrik, and he was to see his grandparents, Alrik Halvar, and grandmother, Linea, for the first time. He was born in September.

HAROLD JACOBY, General American Transportation, New York, was on the Pacific Coast on business connected with their evaporators.

DON LAWS, assistant purchasing agent for Crown Zellerbach in Northern Washington, Seattle office, has moved to Bellevue, across Lake Washington from Seattle, where he has gone in for the country life with horses, ducks, etc.

OAKLEY DEXTER, assistant v. p. of Crown Zellerbach, Seattle, and president of International Pulpwood Supply Co., and his wife, Florence, enjoyed a holiday in Tucson.

ED J. HANSEN has been appointed sales manager, Fred H. French Paper Co., 828-834 Traction Ave., Los Angeles. Mr. Hansen has been associated with paper trade in Southern California for 20 years.

EVAN WOOD, personnel manager of the Weyerhaeuser mills in Everett, *KIRBY BALDREY*, kraft shift chemist in Everett, and *JOHN HOUK*, kraft mill pipefitter, are ham radio operators in that town and turn out for civil defense radio alerts, too.

BILL HUDGINS, mason in Weyerhaeuser's sulfite mill in Everett, is director of special first aid training for his whole county.

C. R. DAHL, former industrial engineer at Crown Zellerbach's mill in Port Townsend, Wash., has been transferred to C-Z Central Engineering, assigned as project engineer at the recently acquired St. Helens, Ore., kraft mill. He is father of three and active in the Toastmasters Club.

Source: American Paper & Pulp Association

NUMBER OF PAPER AND PULP MILL WORKERS AND DEPENDENTS IN THE UNITED STATES

Wisconsin Has Most Pulp and Paper Makers

MORE PULP AND PAPER mill employes live in Wisconsin than in any other state in the union—25,993, or 9.7 percent of the industry's nationwide work force of 268,737.

Next comes New York state with 25,824, and Maine, the third place state, is quite far behind with 19,440. Michigan, Ohio, Pennsylvania, Washington, Louisiana and Massachusetts are grouped next with 13 to 18 thousand each—then there is a wide break.

New York has the most mills—103, including many small specialty mills—over twice as many as Wisconsin, with 48. But second is Massachusetts, 59, and third is Pennsylvania, with 50.

The American Paper & Pulp Association has issued these interesting figures on employment:

MOST PULP-PAPER MAKERS BY STATES

Rank	*State*	*No. of Employes*	*No. of Mills*
1.	Wisconsin	25,993	48
2.	New York	25,824	103
3.	Maine	19,440	29
4.	Michigan	17,711	40
5.	Ohio	16,711	45
6.	Pennsylvania	15,969	50
7.	Washington	15,091	24
8.	Louisiana	14,706	8
9.	Massachusetts	13,463	59
10.	Florida	8,626	9
11.	New Jersey	8,502	38
12.	Georgia	8,272	10
13.	Virginia	7,991	14
14.	No. Carolina	6,948	9
15.	Alabama	6,547	7
16.	New Hampshire	6,373	22
17.	Minnesota	5,986	8
18.	Mississippi	5,558	6
19.	California	4,880	13
20.	Oregon	4,562	11

There are 17 other states of the union with lesser totals of employes in pulp and paper industries.

Taking the leader, Wisconsin, it is interesting to note that it has pulp and paper mills in 34 cities, populated by 973,000 people, some 28 percent of the entire state population. Half of these communities are more than 50 percent dependent on the mills. Thirteen of the towns have less than 5,000 population, 16 are in towns from 5,000 to 50,000 population and only two are in cities of over 100,000.

For all U.S.A., 19 percent of the total population is in towns which have pulp and paper mills. There are a total of 644 mills.

There are 488 towns harboring mills, and 160 of these towns are over 50 percent dependent on the mills. Of these towns, 299 are under 10,000 population; 119 are between 10 and 50 thousand. Only ten are over 500,000. It is a maxim that good living, and often plenty of outdoor pleasures, are to be found in pulp and paper mill towns.

German Industry Surges Back Strong

INDUSTRIAL resurgency of West Germany is one of the most notable developments in Europe observed by P. R. (Dick) Sandwell, head of Sandwell & Co., consulting engineers, Vancouver, B.C., during a flying tour of the pulp and paper industry in the United Kingdom, France, Germany, Austria, Switzerland, Finland and Sweden.

During coming years, German-made machinery and equipment will become increasingly competitive, according to this 41-year-old Canadian, whose five-year-old engineering firm has projects currently under way on four continents representing an investment of $70,000,000.

The industry in Europe is generally active and confident, except perhaps in France, which is in the midst of political and currency difficulties, he said. Scandinavian countries continue their progressive policy and Mr. Sandwell expects their production will be competitive for an indefinite period.

Potentially, Finland seems to be the most competitive of all in chemical pulp, newsprint and pulpwood, but that country is still struggling with a seemingly impossible currency situation and must either devalue its money or cut wages.

"In the United Kingdom," reported Mr. Sandwell, "there has been improvement, but it is slow and industry there is not so specialized as in North America. British manufacturers of pulp and paper mill machinery have habitually covered a wide range of products and consequently the specialized North American machinery

manufacturer sometimes has a distinct advantage. The British are worried about increasing German industrial competition. While many German factories were destroyed during the war, they are able to start afresh with new and efficient machines."

Since the political changes in Soviet Russia, he said, East Germany and some satellite countries were tending to look to West Germany for technical and operating assistance by engineers.

Mr. Sandwell says some engineering firms in Germany and Switzerland are banking heavily on the prospect of atomic energy development and the field for manufacturing atomic machinery. That may be all right for Europe where waterpower sites will soon be exhausted, he points out, but there is no likelihood of atomic energy supplanting hydro-electric power for the pulp and paper industry in an economic sense.

"North America has a tremendous advantage in its abundance of cheap waterpower," declared Mr. Sandwell. "The Pacific Northwest has one of the world's last great reserves of waterpower and in my judgment that is going to be a greater asset than atomic energy when applied to the pulp and paper industry on a dollars and cents basis. Hydro-electric power will be cheaper than nuclear fission for many years to come. We still have a long way to go before finding a practical means of applying atomic energy to industry."

Letter to PULP & PAPER

Pulp and Paper
Office of Editor
1791 Howard St.
Chicago 26, Ill.
U.S.A.

Dear Sirs,

Upon return to Weisbaden, Germany, I received the World Review Number of PULP & PAPER.

Thank you very much for sending it. I have found this copy especially interesting —in fact a most excellent documentation of facts and figures of our industry.

Needless to say that the copies of PULP & PAPER we have subscribed to are always read with enthusiasm by the Waldhof staff.

Very truly yours
Max H. Schmid (signed).
President,
Zellstofffabrik WALDHOF,
Weisbaden, Germany.

Pilot Rock Board Mill Equipment Chosen

Oregon Fibre Products, Inc., Pilot Rock, Ore., has started up a plant to make hardboard and softboard via wet process. — 300,000 sq. ft. of board per day (based on ½ in. softboard and/or ⅛ in. hardboard). Equipment includes two 30,000 lb. per hour Union Iron Works boilers; Hansel hydraulic barker; Bauer refiners; Downingtown forming machine and press; Coe dryer and pre-heater hot press, and Oliver United Filters washer.

SUPERCALENDERING STORY

ITS DEVELOPMENT — FROM ANCIENT TO MODERN TIMES

By Francis E. Schiller

Supt. of Wide Supercalenders, Oxford Paper Co., Rumford, Me.

The history of supercalendering is more ancient than the history of papermaking. Long before the Chinese invented paper in 105 B.C., men had used smooth stones to burnish the surface of various materials. Perhaps the Neanderthal Man was the first to choose a smooth, oval-shaped agate from a brook and use it to rub the flesh side surface of a hide to make it soft and lustrous. The creeping action of the hide as it rubbed against the front of the stone is very similar to the action that takes place when a sheet of paper is supercalendered.

The pressure of that savage hand has been replaced by pressure from hydraulic cylinders; the heat, generated by the friction between the stone and the hide is similar to the heat created by steel rolls turning on resilient cotton rolls at fast speed under pressure; the saliva that the savage used to lubricate his stone is now supplied in the form of steam vapor and in the moisture that is purposely left in the sheet when it leaves the paper machine.

FRANCIS E. SCHILLER, Operating Supt. of Wide Supercalenders, Oxford Paper Co. Rumford, Me. He was at Consolidated Water Power & Paper Co., 1929-1947, where he was Asst. Supt. of Calenders when he left for Oxford.

One of the major problems encountered by the Chinese, after they had learned to make sheets of paper, was the drying problem. They did not have lofts in their homes and space for drying the paper was scarce but the clever Chinese soon utilized the smooth mud walls of their homes. The wet sheets of paper were plastered to the walls to dry, but before all of the moisture evaporated, the sheets were removed and placed into piles. The Chinese noticed that the sides of the sheets that had been pressed against the walls were smoother than the sides that had been exposed to the wind and sun, and therefore would require less burnishing.

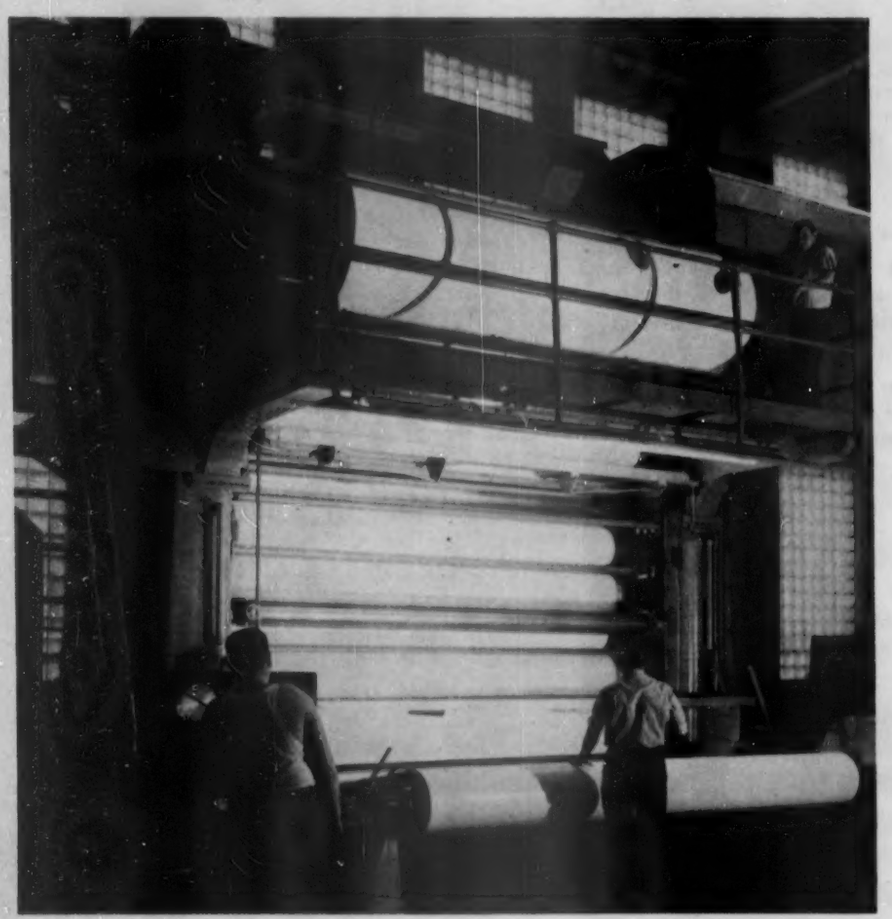
They learned, also, to place the rough sides of the paper against a smooth board when the burnishing was being done, because the underside of the sheet also benefited from the burnishing action. This action pressed down any loose fibers and helped close the pores of the sheet to make it more suitable for the use of pen and ink.

Visitors to paper museums are often amazed at the high degree of polish that was imparted to paper by the hand burnishers. The sheet, however, was left with a streaky appearance due to the small size of the stone and looked similar to a rug that had been freshly cleaned with a vacuum cleaner. Hand burnishing was a time consuming job and it was evident that a faster and cheaper method would have to be found.

The first mechanical machine for imparting a gloss to paper was invented by the Europeans in the 16th century and was called a pressing or glazing hammer. The sheet of paper was laid on a smooth surface and a heavy hammer was made to fall upon the sheet thus smoothing both sides in the same operation. The machines were bulky in construction and were operated by the use of water wheels. The hammers were very noisy but they gave a more uniform gloss than the burnishing stones and were, of course, capable of finishing larger amounts of paper. The hand burnishers realized they would be displaced by these new machines and strife soon broke out between the hand burnishers and the glazing hammer operators. This was, perhaps, the first serious labor war in the paper industry.

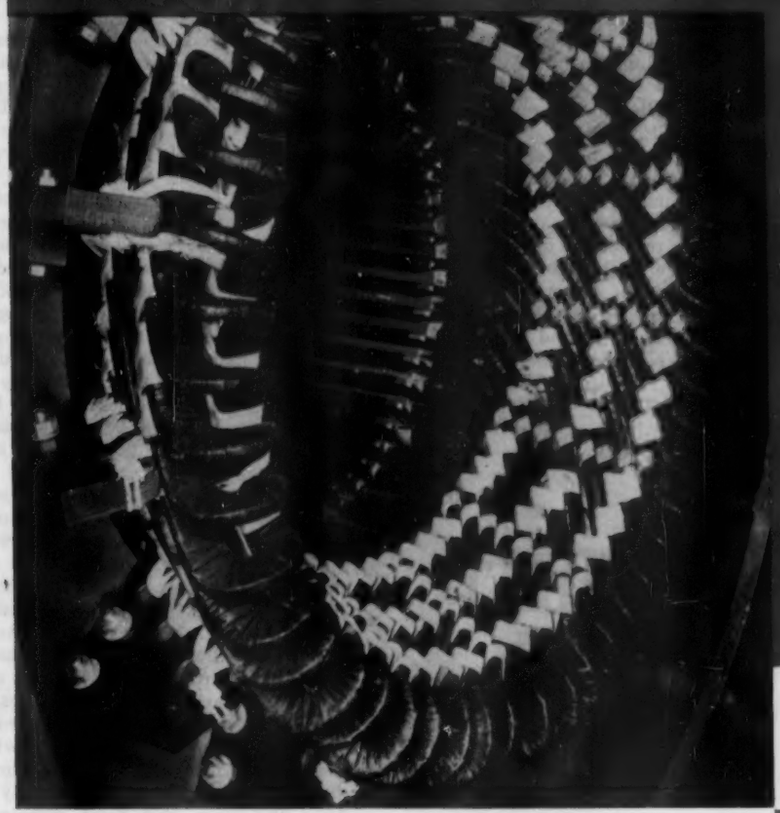
The First Calenders

When it was realized that a smooth surface could be given to the paper by using great pressure only and that the paper did not have to be rubbed with a sweeping or circular motion, it was not long before plate calenders were replacing the pressing hammers. The sheets of paper were placed between highly polished plates of copper or zinc until 30 or 40 sheets of paper were in the pile or rack. The pile was then passed between two iron rollers and a great amount of pres-



"THE MODERN SUPERCALENDER IS A BEAUTIFUL STREAMLINED MACHINE," says Mr. Schiller, the author of this article. This is an APPLETON MACHINE CO. Supercalender in Oxford Mill at Rumford, Maine. MR. SCHILLER, the Superintendent, is standing in front of the rolls with his hand on the lower roll. His back is to the camera because he is holding in his other hand a flash bulb unit, which brought out the excellent lighting effect on the super rolls.

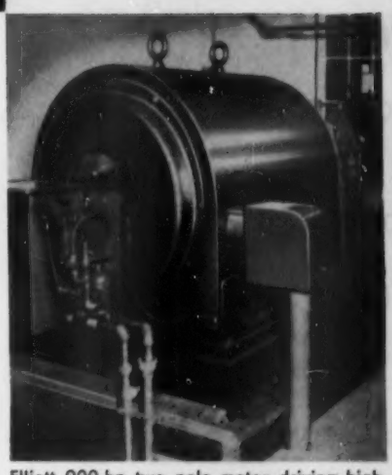
ELLIOTT CONSTRUCTION PRINCIPLES



mean longer life for motors on frequent starting service

You're looking inside a big Elliott two-pole induction motor—typical of those serving the industry on hydraulic barking pump drives and other tough installations. Note the extensive lashing used to restrain the movements of the stator coil end turns during starting. Fiberglas tape holds canvas phenolic blocks between adjacent coils in parallel rows which prevents coils within each phase group from pulling together during starting. This blocking also achieves an arch binding effect to restrict the coil phase groups from separating under starting stresses. The upper and lower portion of the coil end turns are lashed with Fiberglas cord to canvas phenolic blocks that are bolted to the frame to prevent any movement during starting.

Construction standards like this keep Elliott motor performance high. Ask your local Elliott representative for bulletins on the motor you need or write Elliott Company, Ridgway Division, Ridgway, Pa.



Elliott 900-hp two pole motor driving high-pressure centrifugal pump discharging at over 1300 psi, in a new pulp mill in the Northwest. Service requires an average of four starts per eight-hour shift.

Elliott FABRI-STEEL MOTORS AND GENERATORS

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS • CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

83-16

sure was applied. The degree of gloss obtained was determined by the number of times the pile was passed back and forth between the rollers.

Another type of calender that was developed and is still being used, especially on board and heavy grades of paper, is the friction calender. This machine has a large steel roll on the bottom and a small steel roll on top. Both rolls are driven but the top roll is revolved at a greater speed than the bottom roll. Occasionally, beeswax and other polishing agents are applied to the steel rolls.

Perhaps the first supercalender was developed by the Dutch when they made a machine equipped with wooden rolls that had been fashioned from a huge tree. This machine imparted a superior finish to the paper, was more silent than the pressing hammers, eliminated much of the handwork of the plate calenders, and could be operated efficiently by three men. The art of supercalendering was once again ahead of the art of papermaking because the supercalender was ready for continuous production. All it needed was a web of paper instead of separate sheets of paper. But Brian Donkin, an English mechanic, was to take care of that. In 1803, he completed building a paper machine based on the plans of Nicholas-Louis Robert so as to be able to make a continuous web of paper. Hand-made paper and hand-burnished paper would soon be relics of the past.

A supercalender is different from a machine calender or stack in many ways but the main difference lies in the fact that a supercalender uses alternate steel and resilient rolls while a machine stack has all steel rolls. Machine stacks are useful for reducing the bulk of a sheet and to flatten any fibers that may be sticking up from the surface, but they will not impart a real high glare or polish to the paper. When the pressure is applied to a supercalender the steel rolls make indentations in the cotton or paper-filled rolls and a burnishing action takes place that makes the sheet smooth and glossy.

In 1827, two New Englanders, Ira White and Leonard Gale of Newbury, Vermont, secured the first U.S. patent on a glazing-roll or plater. The machine is described as "an useful improvement in the art of finishing paper, to render its surface smooth without injuring its strength—and to improve it in durability and firmness."

The 19th century produced many improvements in the art of supercalendering. First, paper-filled rolls, and later, cotton-filled rolls made their appearance and these spherical ironing board pads are still in use today. Electric motors replaced the water wheels and hydraulic cylinders supplanted the weighted levers and clumsy handwheels for supplying pressure to the rolls. Small electric motors would be used to wind the paper instead of sliding clutches and swishing leather belts. A motor generator would replace the mechanical friction brake on the unwind shaft and the supercalender would furnish part of its own electric power. Oscillating doctors, electric "eyes," electronic glossmeters, and many other devices would be perfected to a high degree and, by 1948, the modern supercalender would be an efficient, streamlined, beautiful machine, truly without a peer in the paper industry.

Watch the operator of a modern supercalender! When the sheet is threaded through the stack rolls and is started on the windup spool, he pre-sets his rheostats on the control panel and pushes the "run" lever. In the few seconds it takes to reach top speed of 1800 f.p.m., he has applied the hydraulic pressure, turned on the steam control unit, and is off to a well controlled start. In 15-25 minutes, depending on the basis weight of the sheet, the eight miles of plain paper will be transformed from a dull, rough looking sheet into a shiny, glimmering, silky web. After the glare and print samples are taken, the supered roll is removed by the overhead electric crane, the unwind spool is lowered to the windup stands and the raw stock roll is placed in the unwind stands. A splice is made at the unwind stand and as soon as it is threaded through the stack rolls the operator will push the "run" lever and the supering process will be repeated. The plain paper and the supered paper is wound on dynamically balanced iron spools of 12 in. diameter and the same spools are used on paper machine winders, supercalenders and rewinders.

What would the Oriental hand burnishers or the European glazing hammer operators say if they could watch one of our modern supercalenders in action? Perhaps they would laugh when a slime hole would cause a snap-off and the sheet would wrap around the cotton rolls at such terriffic speed. If the soft cotton rolls were marked by the impact our visitors would be surprised to see how swiftly the marks could be erased with our pneumatic sanding machines. Or, if the marks were too deep to be sanded, the oldtimers would be amazed when the millwrights would remove the damaged rolls and put in spare, re-surfaced rolls in just a few hours time. I believe the Orientals and the Europeans would say, "You have come a long way."

Safety in Supercalendering

By Francis E. Schiller

(Excerpts from article by Supt. Schiller in Oxford Paper Co.'s "Log")

Some operators will tell you that a supercalender nip will only squeeze the ends of the fingers and the main damage will be the loss of the fingernails. The writer does not believe this. He has seen too many "stack fingers' that had the bones crushed to the middle joints.

It is only logical that guards of some type be placed in front of these nips. The simplest and safest type is made from a length of galvanized pipe, 2½" in diameter. A flat bracket is welded to each end of the pipe and a set screw and washer fastens the bracket to the inside of the bearing housing.

Most nip accidents occur when the stack is being threaded with a strip of paper or when the stack rolls are being sanded or washed.

Threading is safely done by placing the thumb and first two fingers of the hand on the edge of the strip and about six inches from the end of the strip. By using the proper pressure on the edge of the sheet the fingers cause a kink in the lead and that makes the sheet stiff. Thus, the end of the paper strip can be introduced into the nip while the ends of the fingers go no farther than the nip-guard.

The knack of grasping a lead sheet and placing a kink in the sheet to make it stiff is easily taught by a competent instructor. Many men get the knack of it in a few days. New employees are encouraged to practice with strips of paper during their spare time because they will never be safe while threading unless they learn this trick.

During sanding a large amount of cotton dust and a small amount of abrasive dust fills the air and all crew members should wear dust respirators and dust goggles.

Great care should be taken when rigging the rubber air hoses in preparation for the job. On all cotton rolls except the bottom two rolls the hoses should be securely tied to a catwalk or brace so the operator will not have to carry the full weight of the air hose as he moves back and forth while sanding.

While the operator is sanding, felt covered blocks, 3" x 3" x 12", are used to pick off the dust and grit from the rolls.

The safest way to wash stack rolls is to use manufactured cellulose sponges. These sponges can be purchased in various sizes but the writer prefers those that measure 2¾" x 4¼" x 6⅝". This size sponge will be slightly larger when wet but it is easily gripped in the hands and if it is lost, the brick shape prevents it from going under the nip-guard and damaging the stack.

Holding sheets of sandpaper on stack rolls when the stack is supering paper should not be tolerated, not only because of the safety factor but also from a quality viewpoint. If it is necessary to use sheets of sandpaper, the sheets should be folded about a square wooden block similar to the felt block described earlier.

THIS MOVIE STAR comes from a pulp and paper family—of course, it is GLENN FORD.

Movie Star is Son of Paper Makers

A MOVIE ACTOR with a family background in the pulp and paper industry is Glenn Ford, whose great-grandfather, Joseph Ford, came from England and eventually became partner in a company established in Canada over 100 years ago. Its mills have been in operation at Portneuf, Quebec, since 1836.

Recalling some family history, Thomas B. B. Ford, president of J. Ford & Co., writes PULP & PAPER:

"Rowland Ford, one of Joseph Ford's sons, worked with his father, along with his other brothers for some time, and then branched out for himself. He eventually formed the company of Rowland Ford & Son, which company operated a paper mill in Portneuf until about 1925.

"This mill ceased operation on the retirement of Rowland Ford, who was Glenn Ford's grandfather. Glenn Ford's father, Newton Ford, did not go into the paper business, but worked with the Canadian Pacific Railway. Later he moved to California with his family, taking Glenn with him at the age of about 8 years.

"The mill site established by Glenn Ford's great grandfather, on the St. Anne River in the province of Quebec, was called 'Glenford' and it was here that Rowland Ford first worked. It was here that Glenn Ford's father was born."

Movie Actor Glenn paid a visit to Portneuf some time ago and showed much interest in the development of the mills at the scene of his childhood.

Anheuser-Busch's "Men of the Ozarks"

Ed Gillen, technical manager of the Corn Products Division of Anheuser-Busch, producers of pearl starch for paper-making, and his colleague, Ken Battenfield, technical service chief for the same division, live 25 miles from the St. Louis offices and like it. They are neighbors at House Springs, in the Ozarks, and Ed built a good part of his home himself.

Mrs. (Dorothy) Gillen makes the long trip to St. Louis nearly as much as her husband, as she has directed over 100 little theater plays in St. Louis.

Weyerhaeuser Recipe

For those who are prone to save tempting recipes, here is the Weyerhaeuser mill's formula for *one* ton of finished kraft pulp: 2.6 air-dried tons of wood chips, 130 lbs. of salt cake (sodium sulphate), 55 lbs. of lime, 95 lbs. of burnt lime, 20 gals. of fuel oil, 220 lbs. of chlorine, 75 lbs. of caustic soda, 18,000,000 btu's of steam, 535,000 kilowatts hours of electricity and 65,000 gals. of filtered water.

MACHINE SPEEDUP PLANNED -- ENGINEERING PROBLEMS

NEW ELK FALLS ADDITIONS

ELK FALLS CO.'S NEWSPRINT MILL at Duncan Bay, Vancouver Island, B.C., is one of those happy rarities—an operation that has been an uninterrupted success ever since it produced its first roll of paper.

The mill went into production last summer and today, with its Dominion Engineering paper machine running at 1560 f.p.m., average daily output is 250 tons. The mill has a designed capacity of 320 tons.

Pacific Mills Ltd., subsidiary of Crown Zellerbach Corp., and Canadian Western Lumber Co., British Columbia sawmill concern, are joint owners of Elk Falls Co.

The general understanding is that a sulfate pulp unit will be the first major addition to Elk Falls. The company will have access during the next few years to large quantities of second growth Douglas fir and other species more suitable for kraft pulp than newsprint. It is the ultimate plan to make Elk Falls a fully integrated pulp-paper operation with a capacity considerably in excess of 500 tons daily.

Meanwhile several important installations are being made. A vacuum transfer has been ordered for the 284 in. paper machine. This equipment is to permit operation of the machine at greater speed and higher efficiency. Dominion Engineering is supplying an additional winder, a duplicate of that already installed, to cope with the greater production anticipated.

Waterous Ltd., is supplying two more Great Northern two-pocket grinders, driven by 5500 hp. motors, making eight in all, equipped with 67 x 54 in. wide Norton stones.

"Plenty of room is the watchword in locating machinery," says E. C. Cooley, resident engineer of the Elk Falls Co. "Space to walk around, clean around, work around, plus additional room to disassemble it." And he added: "Don't take the certified foundation plan and assume that it is the whole thing, for you'll likely find a couple of pipes or a guard sticking right out where they are least wanted."

Layout after layout was made at the Elk Falls plant and they were usually discarded to provide more space. What seemed to be adequate room originally, soon would mean congestion if a few pipes and pumps were added.

PULP & PAPER (Sept. 1952) published a complete description of the Elk Falls Co. mill, but at that time it was not possible to discuss some of the engineering factors that entered into the design and construction nor could some considerations be evaluated before operating experience became available.

Proper placement of equipment in a new plant, according to Mr. Cooley, comes from a study of equipment components, advice from the supplier, and the usage of plenty of good common sense. He said he was embarrassed recently to find that a large automatic steam valve could not be disassembled because a nearby 8 in. pipe was in the way. "We might be partially excused here," he remarks, "because we presumed the gate would be removed from the top; instead, it had to be taken out the bottom."

WHY DID ELK FALLS CO. AND CROWN ZELLERBACH CENTRAL ENGINEERING decide in favor of a 1,100 foot flume to float wood blocks from Woodroom (seen at distance at top left) to Groundwood Mill at Duncan Bay, B. C.; RESIDENT ENGINEER EDWARD C. COOLEY (shown at lower right), tells why in this article. He discusses other engineering problems. Mr. Cooley, born in Idaho, started with Crown Z as Millwright Helper in Camas, Wash., Mill.

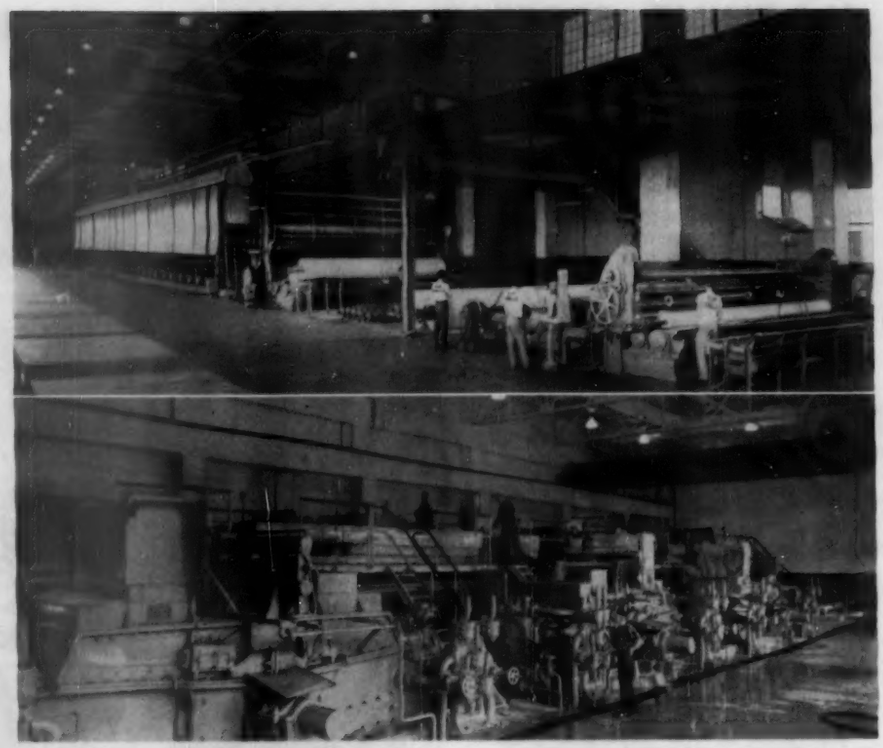
Mr. Cooley outlined what is the biggest handling problem at Elk Falls—transporting wood blocks or short logs (4 ft. maximum) from the woodmill to the groundwood department—some 1100 feet.

Instead of cable and button conveyors commonly used for conveying pulpwood blocks, flumes were adopted at Elk Falls. Mr. Cooley states that the company's engineers were convinced the conveyer would involve much maintenance, but it would surely move the wood. The flume was a problem because the water must run downhill and the plant site at Elk Falls was not so located. A tremendous volume of water was desirable. Also involved was some sort of a take-up between the woodmill and the grinders to even out the heaps and hollows characteristic of logging equipment.

"The flume idea won over our thinking," states Mr. Cooley. "Elevating the trough above the roads, we provided 4 feet of fall from end to end, with a sump for collecting, screening and recirculating the water. The trough is fabricated of ¼ in. steel plate and is sized as follows: 9 ft. wide at the brim, 2 ft. 8 in. wide at the bottom by 3 ft. 2 in. deep. The bottom is flat. The V-shape tends to hold up the water velocity at low flows. Supports for the trough consist of timber bents at 40 ft. centers under 40 ft. Queen trusses, giving an economical construction with considerable eye appeal.

"Now we have a conveying medium consuming about 120 h.p. that provides a readily tapped reservoir of wood. The flume will store up to 50 cords of wood and thus allows the woodmill to shut down for four to five hours twice daily. There seems to be practically no limit to its conveying capacity.

"A good deal of thought went into designing a means of holding the wood back at the lower end but allowing the water to continue round and round. Our conclusions involved six spike rolls spaced a short distance apart that can be varied in speed or started and stopped to control the wood movement. The water passes down between the rolls to the sump and the wood remains on the spikes until it is released by the rotating rolls. Variable speed on the rolls is accomplished hydraulically through a V.S.G. drive. There



DRY END OF DOMINION ENGINEERING Paper Machine (shown above) is 284 inches wide, now running at 1,560 f.p.m., will be speeded up. LOWER VIEW—Two more Waterous Grinders have been added to battery of six units already in Groundwood Mill at Elk Falls.

are quite a number of hydraulic drives used throughout the plant."

The blocks pass out the end of the flume and drop onto a chain conveyer, then pass over a set of 15 straightening or orienting rolls set in the bottom of a converging trough, each roll being covered with short spikes. The rolls are progressively driven faster and when the log leaves the straightening section it is thrown endwise against a bumper at some 600 f.p.m. Dropping straight down it is moved latterly at some 400 f.p.m. by a bed of chains onto a series of roller top chains that slowly pass above and between the wood grinder hoppers. The whole purpose of this combination of conveyors is to cut down as much as possible the hard work connected with hand feeding the grinders. The roller top chains permit the wood to be easily drawn off where it slides down chutes. Two men handle some 60 cords of heavy wood each 8-hour shift into the grinders. One man operates the flume and the conveyors leading up to the roller top section.

Discussing pumps and piping, Mr. Cooley says that practically every supplier of pumps has a good product and they have all accumulated considerable experience in pumping paper pulp. "Then whom should we buy from?" he asks. "Some of them will underbid the others slightly. Then, too, one may offer to go over your plant-wide pumping problems and work with you in a conscientious effort to give you the best possible layout. One cannot afford to pass up a possibility that will raise the plant above the indifferent class in so important a matter as paper mill pumps.

The management of the Elk Falls Co. is well satisfied. The mill has produced newsprint with a minimum of personnel doing the least amount of work. Designed by Howard Simons, now engaged in planning the East Texas Pulp & Paper Co.'s new mill at Evadale, Texas, the Elk Falls mill is managed by T. B. Hargreaves. President of the company is Henry J. Mackin, first vice president, Paul E. Cooper, and second vice president, R. J. Filberg.

New Life from Old Knives; Neat Trick at Brunswick Mill

Neat trick developed at Brunswick Pulp & Paper Co., Brunswick, Ga., is believed to aid considerably the handling of chipper knives and their alignment on the disc. The simple process provides for replacement of metal ground off the cutting edge of the knife with babbitt on the seating edge so that the overall width of the knife remains exactly the same. This eliminates necessity for shims or adjustment of set screws in aligning the sharpened knife on the chipper disc.

Adjustable molds set up in the grinder room make babbitting a simple process. The knife is laid in the mold, the hot metal poured in, cooled, and that's it.

This method speeds up setting the knife in position in chipper, and of holding it in alignment during operation. Brunswick operators say heavy pounding on the knife in operation often pounds set screws into the seat—thus throwing the knife off alignment.

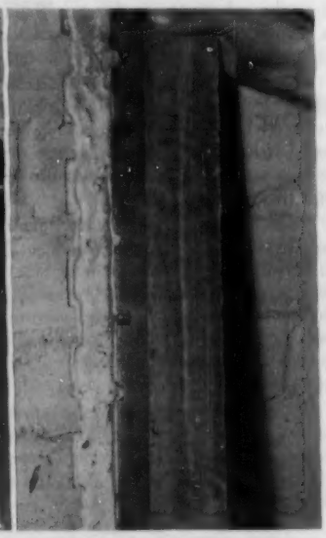
Knives at Brunswick are ground on a heavy duty S.C. Rogers 172-in. grinder, with variable speed travel up to 75 fpm. In addition to chipper knives it is used for grinding chipper throw plates, machine cutter knives and doctor blades.

Here's Where Knives Are Ground . . .

ON THIS HEAVY DUTY S. C. ROGERS (Buffalo, N.Y.) Grinder, the knives at Brunswick Pulp & Paper Co. are ground.

How Metal is Replaced . . .

ADJUSTABLE MOLDS set up in Brunswick Grinder Room make for simple babbitting.



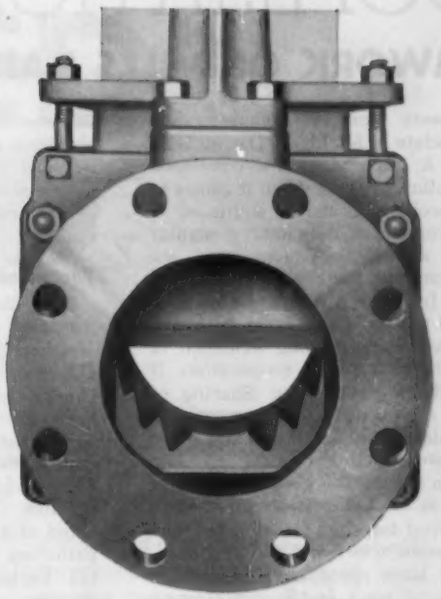
And This is the Result

HERE IS A KNIFE with metal replaced. It aligns more easily on chipper disc.

Shear MAGIC

by CRANE

cuts pulp handling costs

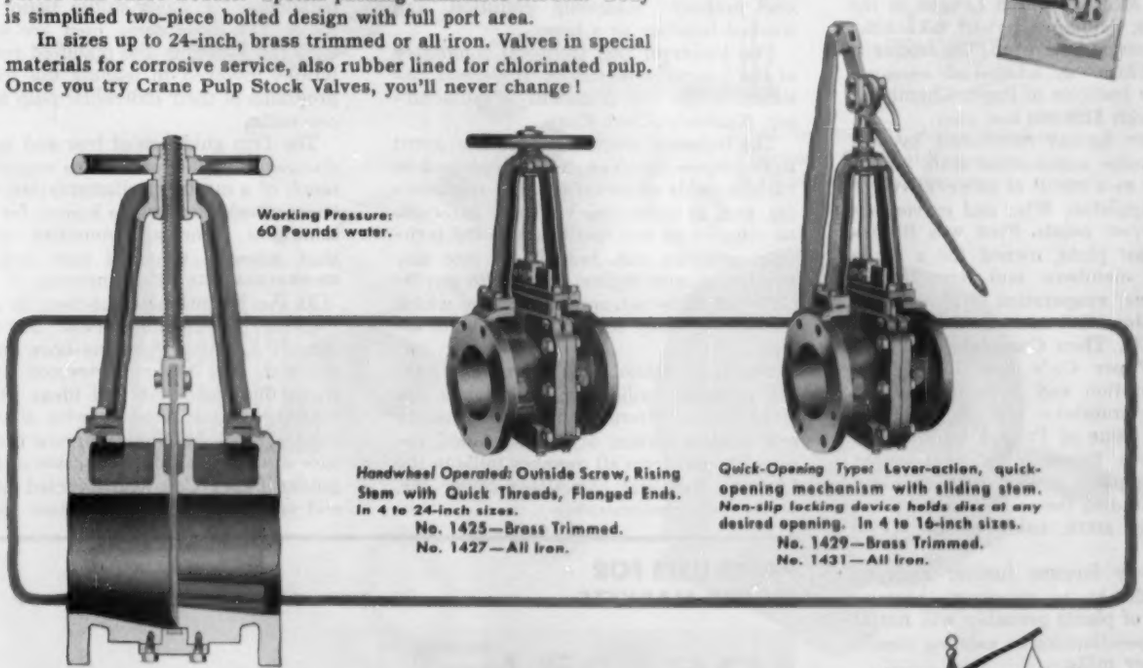


You're looking into the inlet end of the Crane Pulp Stock Valve. Those notches and the knife-edge disc assure you of better stock control . . . and minimum maintenance. Here's why. As the disc closes, pulp fibers are neatly "combed" into small bunches by the notches—while the cutting end of the fully-guided disc easily shears the successive bunches. There's no jamming of fibers under the disc—and when the valve is closed, wood pulp packs itself around the disc to seal against leakage.

In the cross-section below, note the absence of a bonnet. In fact, there's no area in these Crane Valves where stock can become impacted and cause trouble. Special packing minimizes friction. Body is simplified two-piece bolted design with full port area.

In sizes up to 24-inch, brass trimmed or all iron. Valves in special materials for corrosive service, also rubber lined for chlorinated pulp. Once you try Crane Pulp Stock Valves, you'll never change!

Full facts in Folder AD-1908. Get a copy from your Crane Representative next time he calls—or write direct.



Working Pressure: 60 Pounds water.

Handwheel Operated: Outside Screw, Rising Stem with Quick Threads, Flanged Ends. In 4 to 24-inch sizes.
No. 1425—Brass Trimmed.
No. 1427—All Iron.

Quick-Opening Type: Lever-action, quick-opening mechanism with sliding stem. *Non-slip locking device holds disc at any* desired opening. In 4 to 16-inch sizes.
No. 1429—Brass Trimmed.
No. 1431—All Iron.

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COOPERATION AND POLLUTION

TEAMWORK OF MILLS PAID DIVIDENDS IN LAKE STATES

THE WISCONSIN SULFITE INDUSTRY, and its lone associate in Michigan, Detroit Sulphite Pulp & Paper Co., are convinced that cooperation pays off when it comes to tackling a problem as big as pollution.

In other regions of the country, similar cooperative enterprises have been attempted. Some of them appear to have floundered. In some areas, some companies decided to play a lone hand. Nowhere else has been such striking evidence of success achieved through cooperation. It has paid off in many ways. Sharing of many costs is one. The new sympathetic and favorable attitude of Wisconsin press and politicians is another.

Talking in recent weeks with many of the leaders in the Lake States area, PULP & PAPER pieced together the story of how this cooperation was born and nurtured. These mills have spent over $15,000,000 in experimental work and in actual commercial scale plants to reduce stream pollution.

J. M. Conway, president of Hoberg Paper Mills and also president of the Sulphite Pulp Mfrs. Research League in the Lake States, estimates it will take $25,000,000 to complete the job. The league is putting $152,000 in additional research based at the Institute of Paper Chemistry, compared with $139,000 last year.

The larger figures mentioned by Mr. Conway involve commercial scale plants. These came as a result of cooperative research at Appleton, Wis., and carried on jointly at other points. First was Rhinelander's yeast plant, owned for a while by League members, and now Rhinelander's new evaporation and burning plant (See Jan. 1953 issue of PULP & PAPER, page 63). Then Consolidated Water Power & Paper Co.'s first full-fledged CAO evaporation and burning plant in America at Interlake Mill in Appleton (April 1953 issue of PULP & PAPER, page 72). Northern Paper Mills' evaporation and burning plant is soon to follow and Hoberg is building the second torula yeast plant in the state, using sulfite waste liquor.

Mr. Conway foresaw further research and expenditure as necessary because these types of plants probably will not fit the needs, peculiarities or existing conditions of other mills.

Even these four projects must still be classed as "experimental until they prove themselves economically and technically," he said. Another furnace is to be converted at Interlake and burning methods must be improved. At least three other radically different evaporation systems are under consideration, one now being tested at Appleton.

Mr. Conway provided the organizing initiative that led in setting up the League program back in 1939. As its president since then, he kept it going strong. He devoted much time and thought to maintaining an *over-all* League policy of interest and value to the management of all the member mills. His sound policy leadership is credited with keeping the joint program going.

One of the points he hammered away at —"the approach to a solution must be scientific and economic, not political."

Technical Leadership

Men like Joe Conway; Folke Becker, president of Rhinelander; Milan Boex of Northern; Stanton Mead, president of Consolidated, Ernst Mahler of Kimberly-Clark, and others, while giving much of their own time to the problem, readily agree that the League program has been exceptionally well led in another category —the technical side of it.

When Consolidated's plant was dedicated at an Institute of Paper Chemistry gathering and tour of the plant, recently, Gil Dickerman, Consolidated's research director, mentioned that the research group had held over 50 meetings in that same room over the years since 1939—50 meetings, of two days each usually, at which this expert talent worked at just one problem: Reducing pollution, and worked together as a team.

The leader of this technical committee of the League is Henry A. Rothchild, assistant to the vice president, Manufacturing, Kimberly-Clark Corp.

The technical search for values in spent sulfite liquor involves diverse research in various fields of chemistry and engineering, and, as is the case with any substrate so complex as this spent liquor, the technical program can branch off into any number of side angles; some with potentially valuable outcome, but many which are all too likely to wind up in blind alleys.

The Lake States mills' advantage from the technical policy standpoint has derived directly from having an unusually active participation of the seasoned research talent from all member mills in the League's technical committee under Mr. Rothchild's chairmanship.

The judgment of the men on this committee has resulted in carrying the League program through with a good deal less than the usual amount of wasted effort on unprofitable research, it is generally agreed at these participating mills.

They had their share of "Rube Goldberg" answers and many more ideas with more plausible reasoning originating from within and without the technical staff. Relatively few of the new ideas ever pass the technical committee's high standards for screening.

An important aspect of this cooperation is the interest maintained by the technical committee members and the amount of time and effort devoted to seeing the program through. These men have maintained a remarkable attendance record for meetings (usually two days in length) every quarter over a 14-year period, and in between regular meetings all members devote many hours to subcommittee programs, special sessions, and to their individual interests in the over-all program.

They have all become specialists in the technology of spent sulfite liquor treatment. Yet these same men are charged with the full-time and manifold responsibilities involved in leading the technical programs of their individual pulp and paper mills.

The firm guidance of free and informal discussion in this committee requires the touch of a master parliamentarian, and to Henry Rothchild go the honors for maintaining a technical committee program that interests these 14 men and keeps them coming to every meeting.

At the League headquarters, in Appleton, the full-time technical director is Averill J. Wiley, Spokane-born Institute scientist, who has now devoted years to trying out good and bad ideas. He succeeded another pioneer who should be mentioned, J. M. Holderby, now the manager of the by-products division of Rhinelander Paper Co., who directed building and operation of the yeast plant there.

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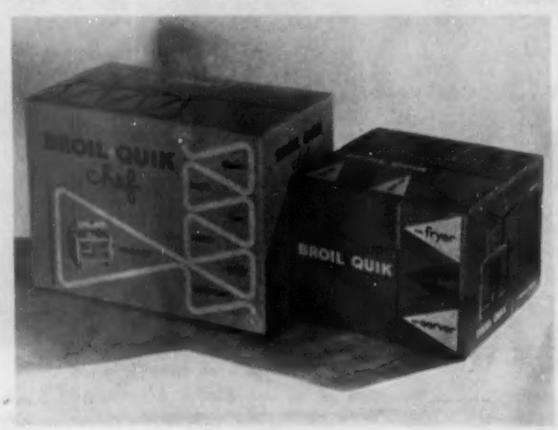

Broil-Quik Co. of New York packaged its Broil-Quik Chef and Fryer in these attractive new cartons—and sales jumped 18%. The Chef's carton is blue-gray, the Fryer's orange, both with black and white lettering, designed by Raymond Loewy. Kraft Corrugated Containers, Inc. of Bayonne, N. J., made cartons and corrugated from board supplied by International Paper.

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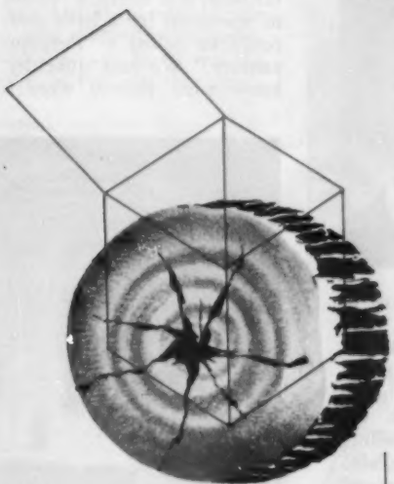

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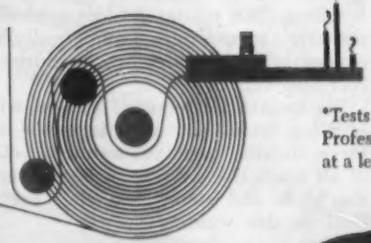

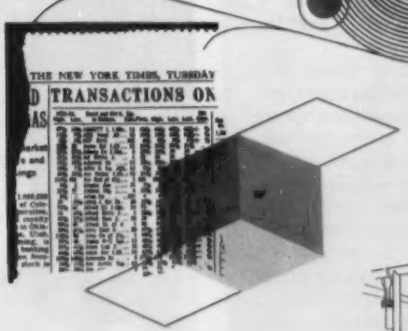

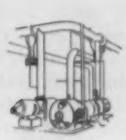

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MOTOR APPLICATIONS

CASE HISTORIES - - - A CARD SYSTEM

By John Schuh

Chief of Design and Planning
Longview Fibre Co., Longview, Wash.

Selection, maintenance and repair of motors, done properly, lead to continuity of operation, important in a paper mill with its around-the-clock operation.

In motor selection Longview Fibre Co. tries to standardize as much as possible. In so doing, there is a little problem of replacement from our motor pool, or in the case of large motors, of a temporary switch until permanent repairs are made. We still shy away from ball-bearing totally-enclosed fan-cooled motors in ratings over 40 hp.

On one installation in 1936, we installed a 150 hp, totally-enclosed fan-cooled ball-bearing motor on a recovery furnace I.D. fan. This motor was direct coupled with a Fast coupling, and was located under the breeching, a warm and dusty location with small amount of vibration at times, caused by build up on the fan rotor. (The reason we selected this type of motor).

We started to have bearing trouble at once, the inboard bearing running hot, as true in most totally enclosed fan cooled motors the room air is picked up by the fan, and passed over the stator to carry away heat generated by the motor. This hot air discharge was a contributing factor to a very short life for this particular bearing, and to change it was a major job. Loosing the shaft fit, and a metal spray job would cost us at least a 16 hour shutdown.

Two years of this, and we purchased and installed a splash-proof sleeve-bearing motor, and after more than ten years of operation our only costs on this motor were for maintenance, consisting of cleaning the windings and changing oil about twice a year. We do this on a scheduled furnace shutdown.

The successful operation of this motor led us to select the same type for three more recent furnaces, and we have had the same good results.

Maintenance, locating trouble before it becomes a major repair, and prolonging the productive life of the motor, is most important to Longview Fibre Co.

Good examples are the groundwood and chipper motors, subject to severe overloads, moisture and corrosive vapors. Our #1 grinder, a 1650 hp, 80% P.F., 2,300 volt motor was installed in 1928, and was rewound in 1934, and again in 1948. The first winding was good for six years, the next winding for 14 years. By the experience gained, we improved this installation.

This motor carries a 30% over load for three or four days at a time, so temperature control seemed necessary. We installed a surface air cooler with automatic controller to hold temperature at 150° F. Temperature is recorded, and alarm contacts set at 175° F., which is never exceeded. Motor is enclosed in an air tight enclosure with a circulating fan forcing the cooled air through the windings. This set-up, besides controlling the motor temperature automatically, also eliminates the hazards of moisture and corrosive vapors.

JOHN SCHUH, who wrote this article, is Chief of Design and Planning at Longview Fibre Co.

We have a tickler card system which is plant wide, but on this motor is a three months card requesting a check of all protective relays, exciter, megging the rotor and stator and checking the coils in the winding.

After a complete check is made, card is sent to the department superintendent, then to the engineering department where the condition of the motor is checked and recorded. If coils are noted as becoming loose in slots, machine is scheduled for down time, and repairs are made. This system has also exposed defective switch gear which could mean a burned-out motor. We have lost squirrel cage windings because its protective relays failed.

I think our tickler card system is one reason, and maybe the main reason, that this motor and others are giving longer trouble-free operation, and with very little loss in production.

The application of slip ring motors has proven very satisfactory with us. In some instances they were not a part of the original installations, but we replaced it, and are getting much better results. We have this type of motor on four Camachines, and operate without a clutch, and have very good starting conditions.

Another interesting application is our #5 Machine winder which originally was a single D.C. motor. On light weight paper it was quite a task to operate, particularly 9" rolls. To get a smooth start, and still have maximum speed range seemed impossible.

We finally installed a slip ring motor we had on hand with a remote controlled 10 step secondary controller, with grids stepped to suit the operation.

In conclusion, I would like to pass on for what it is worth, a system we have had in operation for a little over a year, and could be called a "Perpetual Motor Inventory." We had difficulty at times to know what motors were in the motor

TO ILLUSTRATE MR. SCHUH'S ARTICLE, Picture above clearly shows motor with self-contained cooling system which consists of a blower and a surface air cooler. Note steel partition around the stator, thus forcing air to pass through the coils. Enclosure is Transite on a steel framework. Picture below is a front view of same unit showing from left to right the pulp temperature recording controller, motor winding temperature recorder, winding high temperature alarm recording and totalizing wattmeters. Above temperature recorders is diaphragm operated control valve in cooling water line to surface air cooler. This valve is operated by an indicating controller having its sensitive bulb located in air stream. Partly visible in upper right corner is control room for this motor housing the M.G. set, and motor control panel. This control room is also of steel and Transite construction.

pool, whether they could be used for a new job, were to be held for certain spares or were in the shop for repairs.

We set up a duplex card system, both tags being filled out, 1 tag wired to the motor, and the duplicate sent to the engineering department file, which is open to mill operators.

Cards are serially numbered, making it easy to select a motor, as the motor name plates are sometimes hard to read.

When a motor is taken from the pool, the tag is removed and sent to the engineering department where the duplicate tag, found by serial number, is also removed. Both tags are then sent to the chief electrician, who makes the necessary out, and the motor is put back into the repairs. A new set of tags are then made pool.

With this system, our file shows only motors in storage ready for service, and is always up to date.

Everett Now One of World's Biggest Pulp and Paper Cities

With Weyerhaeuser Timber Co.'s new 250 ton kraft pulp mill in operation, Everett, Wash., has now become one of the half dozen leading pulp and paper manufacturing centers of the world.

No. 1 is Three Rivers (Trois Rivieres), Quebec, where newsprint, bolstered with small amounts of board and pulp, rolls off machines of three mills at the rate of about 2,200 tons a day.

No. 2 is Savannah, Ga., where kraft board is the product of two mills, and a small third one, and they now total over 2,000 tons a day with the output of Union Bag's big new No. 6 included. Further expansion is planned in Savannah.

No. 3 is Georgetown, S. C., another big board center with 1,650 tons a day.

Next are bunched Everett, Wash., Springhill, La., and Bogalusa, La., all capable of making around 1,300 tons a day.

London, England, is perhaps the only other city in the world capable of challenging any of the above "Big Six" of North America.

Everett, 34,000 population, was once known as the "Lumber Capital of the World." Lumber is still made there, but greatly overshadowed by the big Scott Soundview pulp and paper division, the two big Weyerhaeuser market pulp mills and Simpson Logging Co.'s Everett Pulp & Paper mill.

Oakite Man's Award

L. T. PRINCE, Technical Service Representative of Oakite Products, Inc., manufacturers of industrial cleaning and allied materials, is shown receiving the D. C. Ball Award for Distinguished Service from John A. Carter, Oakite President. The award, a bronze plaque, is presented annually to the member of the firm's nationwide organization adjudged to have rendered outstanding service to industry. The award is given in memory of David Clifton Ball, pioneer in industrial cleaning procedures and founder of the company. It was made at a conference of Oakite representatives in St. Louis.

WOODLANDS MANAGER EXPLAINS

GUY WESLEY (kneeling), Vice Pres. and Woodlands Mgr., National Container, explains future of a seedling to (l to r): CHARLES BENNETT, WALTER LANE and SAMUEL KIPNIS, President of National Container.

Five Million Seedlings In New Natcon Nursery

The "Natcon" nursery of National Container Corp. dedicated at Lake Butler, Fla., Nov. 17, will yield 5 million seedlings for planting during the current season, and is expected to produce enough young trees for planting 7,000 acres annually, according to Guy H. Wesley, vice president and manager, woodlands division.

Mr. Wesley, who spoke at the ceremonies, said "National Container is following an intensive program of management on company land to obtain the most wood growth possible. The plan is aimed at full stocking with slash pine. Mature or slow-growing stands are being cut off and, where there is not adequate slash seed trees, the areas are being planted. Where we have sufficient slash seed trees, the cutting is done to leave a seed source."

Florida and Georgia officials took part in the dedication in addition to officials of National Container. Samuel Kipnis, National's president, pointed out the great strides made in forestry in the South. He said that 75 million pine seedlings will be planted this winter on more than 100,000 acres of non-productive lands in Florida alone, and National will distribute seedlings to individual landowners.

Hydrabeater For Riegel

Riegel Paper Corp. at Milford, N. J., will use Shartle Bros.'s new Hydrabeater—combination pulper-refiner for reduction of wet strength papers and glassine broke. Constructed entirely of stainless steel, this Hydrabeater, a 2000 lb. size, features Duotrol—automatic adjustment of the pulping and refining element.

Zimmerman Heads P. & W. Projects Engineering

W. J. Zimmerman, former chief engineer for Mead Corp. and Abitibi Power & Paper, has been appointed senior engineer of the Pulp and Paper Project Division, Parsons & Whittemore, Inc., it is announced by Karl F. Landegger, president. For the last few years Mr. Zimmerman has had his own consulting engineering business, with offices in Toronto.

Mr. Zimmerman holds patents on neutral sulfite semi-chemical pulping, pulp refining, paper conditioning, automatic baling, and finishing.

Mr. Zimmerman will assist in planning and construction of mills in various parts of the world under P&W's Private Point 4 Program.

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This simple equipment enables you to bundle your logs as they come from the farmers' trucks—a method that means fast, easy handling with minimum labor involved.

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- ends piece-by-piece handling
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- bundles are handled by usual mobile yard cranes
- reduces labor costs materially

Signode fieldmen will be glad to show you how to use these and other time, labor and money-saving methods in the handling and strapping of lumber of all kinds. Write

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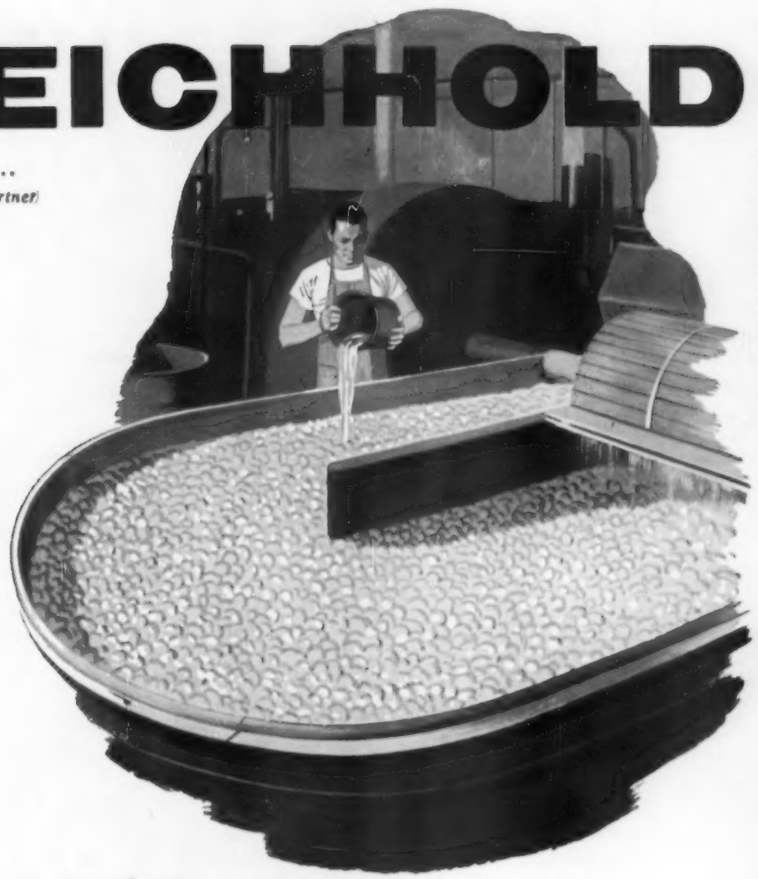

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